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ABSTRACT

An overview is given of the Sierra Project, a developmental intervention designed and undertaken at the University of California, Irvine during 1974-75 to facilitate and study dimensions associated with character development in college students. The developmental status of resident freshmen was assessed and their growth and development over the course of their college experience studied. Moral reasoning, ego development, and sex role choices were among the factors considered. (MSE)

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A DEVELOPMENTAL INTERVENTION IN HIGHER EDUCATION

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This chapter will provide an overview of the Sierra Project, a developmental intervention designed to facilitate and study dimensions associated with character development in college students. As a research project, the Sierra effort is designed to study the developmental status of freshmen, and to assess the growth and development of those freshmen over the course of their college experience on such dimensions as moral reasoning, ego development, and sex role choices.

I. Scope and Purpose

The Sierra Project began at the University of California, Irvine during academic year 1974-75. The initial year was spent recruiting interested faculty, professional staff, and student staff for the project, creating a general outline of the curriculum and research designs, then obtaining the approvals necessary for new academic courses, human subjects research, and participation in the residence halls.

The first class of freshmen, the class of 1979, entered in the fall of 1975. The last class of freshmen we presently intend to study, the class of 1982, will enter UC Irvine in the fall of 1978. As this is written (January of 1978), the first class we are studying are now entering the second quarter of their junior year.

The project has four goals:

Goal 1: To design, implement, and evaluate a replicable curriculum which will:

- a) facilitate the transition from high school to college life;
- b) stimulate psychological development from late adolescence to early adulthood, including moral reasoning, ego development and role choices;
- c) foster a consideration of future life-style choices and career decisions; and
- d) challenge the learner to apply his educational experiences to problems in the broader community through community service.

Goal 2: To study the developmental status of college freshmen in the context of an intensive year long residential program.

Goal 3: To investigate what specific experiences have the greatest impact on promoting individual growth in the transition from late adolescence to early adulthood.

Goal 4: To conduct a four-year longitudinal study of the development of moral reasoning in college students.

In order to describe what we have done and what we are planning to do, the present chapter is organized in the following manner. Section I outlines the scope and purpose of the intervention, Section II the setting in which it is occurring. Section III presents the ten curriculum modules we set out to develop and describes in a general manner how each has been received. Specific details of what occurred each week and how it has been evaluated by the students will be presented in the next chapter.

Section IV details the evaluation component of the Sierra Project, including the instruments, and the selection procedures for the experimental and control groups, as well as an outline of the data collection plan for each of the classes being studied.

Section V describes the major theoretical underpinnings of the project, particularly the insights from developmental and counseling psychology which have influenced curriculum development. Important from developmental psychology are the concepts of structural organization, developmental sequencing, interactionism, and equilibration. From counseling psychology, the concepts that have influenced curriculum development most are the importance of a psychological sense of community, the power of empathy and social perspective taking in the development of higher stages of moral reasoning, and the impact which assertion training can have on the development and implementation of fairness as a principle in the resolution of interpersonal conflict, and on promoting transitions from Stage 2 to Stage 3, and from Stage 3 to Stage 4 as defined by Kohlberg's (1958, 1964, 1969) cognitive developmental theory of the stages of the development of moral reasoning.

¶ Section VI, the concluding section of the chapter, is a series of reflections on the first two years of the project. The intent of the concluding section is to convey what we have learned about the problems of implementing a project such as this in a naturalistic setting with a population of college freshmen.

SECTION II--The Setting.

The curriculum intervention and the research associated with it are being conducted at the Irvine campus of the University of California. UC Irvine is one of the youngest campuses in the nine-campus UC system, and one of the most comprehensive in scope of academic and research programs. In its first 12 years, UC Irvine has grown from 1,500 to over 9,000 students, offering academic degrees from B.A. to the Ph.D and M.D.

Despite its attractive climate, new facilities, and small undergraduate living units, UC Irvine is a difficult place for people of similar interests to get together. Only 25 percent of undergraduates are housed on campus, the average commuter student drives 11 miles each way to school, and the formal life on campus for students enrolled in standard degree programs is largely from 9:00 a.m. to 5:00 p.m. The only structured exception to this is the Residential Learning Program of which Sierra Hall is a part.

The Residential Learning Program at UCI represents a broad-based cooperative endeavor between a number of the Academic Schools and the Office of the Dean of Students, with funding coming in part from the Committee on Instructional Development. The general charge of the Committee on Instructional Development is to improve the quality of undergraduate learning. In its most basic sense, this cooperative endeavor aims to improve the quality of the interaction between faculty and both resident and commuter students, and to facilitate the creation of a sense of community on the Irvine campus.

Within UC Irvine, the Sierra Project is centered in Sierra Hall, from which it takes its name. It is one of 23 individual residence halls, each housing between 40 and 60 students, located in the Mesa Court undergraduate housing complex. The housing complex is considered by students to be a particularly attractive place to live, This is reflected in an occupancy rate of over 99 percent, a waiting list at the start of each academic year of over 1,000 students, and a return rate to the halls of over 50 percent from one year to the next.

Sierra Hall has been and is continuing to be an interracial hall. While minorities account for approximately 18 percent of the UC Irvine undergraduate population, they account for roughly 50 percent of the population of Sierra. The minorities in turn are equally divided between Black, Mexican-American, and Asian-American students.

The Sierra Project intervention, while consisting of the total living-learning experience, centers around a four-unit lower division academic course (Social Ecology 74, Moral Development and Just Communities) offered each quarter in which all students who elect Sierra must enroll. In addition students may elect a two unit laboratory course in both winter and spring quarters. The laboratory course involves working at least 5 hours per week in a learning-service opportunity in the surrounding community. The laboratory course is modeled after the work of Mosher and Sprinthall (1970, 1971) on deliberate psychological education, involves cross-age teaching and cross-age counseling. The intent is to encourage college students to apply the skills they are learning to problems in the community, while at the same time, learning more about themselves, and the problems and perspectives of the persons they are helping. Approximately 40 percent of the Sierra students elect the two unit laboratory course in community service. From anecdotal reports it is our belief that closer to 70 percent would elect it if it were not for the time restrictions imposed by the structured academic curriculum of the freshman year, particularly for science majors, who make up 40 percent of the Sierra population.

It is important to understand the context in which the Sierra Project is occurring. The level of student interest in the project--138 requested it from the apporximately 800 freshmen from the Class of 1979 who chose to live on campus--is attributable to its reputation for providing a high level of community when compared to other opportunities on campus, close involvement with both students and faculty, and a highly supportive personal environment in which to make the transition from high school to college.

III. The Sierra Curriculum:

In the summer of 1975, planning began in earnest on the outlines of the Sierra curriculum. The intent of the original planning group was to develop a series of discrete modules which could be implemented singly, or presented in a sequential order. After implementation and evaluation, the modules were further intended to be utilized elsewhere, at UCI or on other campuses. Educators could select only those modules which served their particular instructional purposes. The modules as they were originally conceived are as follows:

Unit 1. Survival Skills--what freshmen need to know that most seniors already do: how to organize their time, how to study effectively, and how to prepare for and take examinations.

Unit 2. Social Perspective Taking--The development of empathy, defined as the ability to understand the point of view of another, and the ability to communicate that understanding, which involves basic listening and communication skills.

Unit 3. Community Building--Working together to create an atmosphere of openness, trust and group support in an environment characterized by conflict resolution through democratic decision-making.

Unit 4. Conceptions of Life Style--Helping students consider themselves in relationship to how other people have chosen to live in particular reference to different value choices and perspectives on the world.

Unit 5. Sex Role Choices--the consideration of differing sex role expectations within the society, their implications for two-person relationships and for partnerships between men and women.

Unit 6. Assertion Training--how to identify the personal rights involved in a conflict situation and how to resolve that situation assuring one's own legitimate rights without violating those of others.

Unit 7. Career Decision Making--how to apply what one already knows or can learn about one's self in formulating educational and long-term career plans with an emphasis on helping students to identify occupational or career fields consistent with those values.

Unit 8. Community Service--providing the opportunity for students to work with people with real problems in the naturalistic setting while giving students the opportunity to apply the skills they have been learning in Sierra to a social action community setting.

This module allows the students to have positive contact with agencies outside the university community while still receiving support from the campus.

Unit 9. Life Planning--giving students the challenge of planning their lives on paper, determining what kind of persons they would like to be and how they would like to live. One format for this is to ask students to write their own obituary, using the assumption they have led full and productive lives. They are to emphasize value choices, goals, and key decision points.

Unit 10. Conflict Resolution in Society--participation in SIMSOC (Gamson, 1972a; 1972b) a commercially available simulation game where students are given a vaguely structured role and allowed to form their own society. In the implementation of SIMSOC in Sierra Hall, emphasis is placed on survival issues, personal goals, problems of power and authority, and what type of society provides the most good for the most people. Principles of fairness and justice are involved throughout the game as well as conflict resolution skills.

As is apparent from the above, these modules vary greatly in terms of their scope and content. Unit 1, Survival Skills, is not necessary if the population is other than entering freshmen. With our group of entering freshmen however, the psychological stress and anxiety level about initial learning problems is so high for the first several weeks that there is no real point in trying to move to other subject matter without first focusing on learning skills, time management, and how to cope with the expectations and demands of a major university curriculum.

Unit 2, Social Perspective Taking, is one of the key components of character development. It is based theoretically on three independent but converging bodies of research (Grief and Hogan, 1973; Mosher and Sprinthall, 1971; Selman, 1976a, 1976b) which point to the relationship between increased empathy and social perspective taking ability and increased level of moral reasoning. These three lines of research are treated more extensively in

Section V of this chapter.

Unit 3, Community Building, grew out of three bodies of research and literature. The first is the work of Lawrence Kohlberg and his associates (Kohlberg, 1975; Kohlberg, Wasserman, and Richardson, 1975; Wasserman, 1976) on the creation of just communities, and their relationship to increased levels of moral reasoning in the participants. The second is the work of Carl Rogers and his associates (Rogers, 1970; Coulson, 1973) on the importance of community, particularly on the role of empathy and trust. The third is the work of Seymour Sarason (Sarason, Zitnay, & Grossman, 1972; Sarason, 1972; Sarason, 1974) on the importance of a psychological sense of community, particularly on how people strive to be part of a network of intimate relationships.

Over the course of the two years during which the curriculum has been implemented, Unit 10, Conflict Resolution in Society, has become an important component of community building. The first year, 1975-76, Unit 10 was implemented in the spring quarter. Since SIMSOC requires several large blocks of uninterrupted time, the decision was made to do it on a weekend retreat to the mountains.

This weekend retreat proved to be such a boon to community building, for it helped students to get to know each other, that the Unit was moved up to the start of fall quarter in both 1976-77 and 1977-78 with excellent results.

Our initial reason for using SIMSOC was as a means for fostering cognitive conflict about issues related to the creation of a society. Our intent was to build on the work of Kohlberg and his associates which found cognitive conflict to be a key aid in raising the level of moral reasoning. The leaders were relied upon to crystalize cognitive conflicts raised in the simulation, specifically around issues of fairness and justice. In summary, we feel that SIMSOC is an important vehicle for the generation of cognitive conflict and for the building of a sense of community.

Unit 4, Conceptions of Life Style, and Unit 9, Life Planning, ultimately did not prove to generate issues that were salient in the lives of Sierra Hall freshmen. Upon reflection, the freshmen were just entering a new life, the collegiate one, and they were not psychologically ready to begin to prepare for life after college. Although these units have applicability to the college years, they do not appear to be important components of a freshmen year curriculum.

Unit 5, Sex Role Choices, particularly as they related to two-person relationships, were of deep interest to the freshmen. As the year started, most were still involved with high school friends. By the start of winter quarter, these high school friendships were of less importance, and students were intensely involved in exploring two-person relationships on the campus. The largely egalitarian student culture challenged many of their previously held beliefs about the roles of men and women in society. This Unit has the potential to be a significant vehicle for rethinking the basis of relationships. Questions such as what is fair for both partners, how another human being perceives one's own actions, and whether stereotypic sex role behaviors are a sound basis for enriching partnerships are very relevant and challenging for this group.

Unit 6, Assertion Training, marked an attempt by the staff to apply a newly developing technique from counseling psychology to both skill building in freshmen, and to the development of character. Assertion Training is a psychological intervention designed to help individuals identify both their rights in a situation and those of others, and to work out a way to obtain what they want without interfering with the rights of others. The emphasis added by the staff to traditional assertion training were the principles of fairness and justice as a basis for conflict resolution. This Unit proved very interesting and stimulating to freshmen. Section V of this chapter treats the use of assertion training to promote stage transitions in level of moral reasoning.

Unit 7, Career Decision Making, was a unit which appealed to some freshmen but not to others. In the first year, 1975-76, all students were invited to participate in a computer-based System of Interactive Guidance and Information (SIGI), a career decision making and counseling system developed by the Educational Testing Service and available on the Irvine campus. However, of the 44 freshmen in Sierra and 50 in Lago (another freshman hall which was serving as a control group), only 21 chose to participate. As with Units 4 (lifestyles) and 9 (life planning), Unit 7 is considered to be more relevant to upper classmen, though still of interest to some freshmen. Units 4, 7, and 9 were not considered to have a theoretical relationship to moral reasoning, but were included because of their relationship to future planning, value choices, and the setting of priorities in life, manifestations of the higher levels of ego development, and important skills to be acquired in the college years.

Unit 8, Community Service, was based on the research of Mosher and Sprinthall (1971) and their associates on deliberate psychological education. They found significant gains in level of moral reasoning and ego development in students who participated in community service which involved the application of cross age counseling and teaching skills. As was discussed earlier, about 40 percent of the students chose to participate in community service (Spring, 1976--14 students; winter, 1977--21 students, spring, 1977--16 students; winter, 1978--19 students).

Each of the educational modules described above required careful planning for its development, implementation, and evaluation. The process involved in module development, what actually occurred in class, and what the student evaluations revealed are presented in the next chapter of this book (Whiteley and Loxley, 1978).

Student participation was required for every module we offered except Unit 8, Community Service. The following units were considered on theoretical grounds to be part of the core curriculum for promoting higher levels of moral reasoning: Unit 2, Social Perspective Taking; Unit 3, Community Building; Unit 5, Sex Role Choices; Unit 6, Assertion Training; Unit 10, Conflict Resolution on Society; and Unit 8, Community Service. The theoretical rationale for the core curriculum is provided in Section V of this chapter.

SECTION IV--The Evaluation Component

The evaluation component of the Sierra project examines a number of distinct groups of subjects. The first group, the Sierra Hall Experimental population, consists of the residents of Sierra Hall (22 men and 22 women) for the years 1975-76 (class of 1979), 1976-77 (class of 1980), 1977-78 (class of 1981), and 1978-79 (class of 1982).

The second group, the Lago Hall Control Group, consists of the residents of Lago Hall (25 men and 25 women) for the years 1975-76 (class of 1979), 1976-77 (class of 1980), 1977-78 (class of 1981), and 1978-79 (class of 1982). For the years of 1975-76 (class of 1979) and 1976-77 (class of 1980) Lago Hall assignments were made on a random basis from the larger pool of students who had requested the Sierra Hall Experience. For these two years, residents of Sierra and Lago, therefore, were both motivated for the curriculum experience provided by Sierra. It was felt that the Lago control group for these years would allow us to study what differences, if any, developed between the groups which experienced the curriculum and the groups which did not, since both groups had been equally motivated for a residential learning experience. There were not enough freshmen interested in Sierra to fill both Sierra and Lago for the year 1977-78 (class of 1980). As this is written (January of 1978), we do not know what the demand for Sierra will be in the Fall of 1978.

A. The Survey Design

Instruments are administered at two points in time: September, at the start of the academic year and May, at the close of the academic year. Included in the Survey Design are the following instruments.

1. Moral Reasoning

a. Kohlberg Moral Judgment Interview. This instrument is a one hour individually administered, structured interview which presents a series of moral dilemmas. The interviewer asks open ended questions designed to probe the logic that the interviewee is using to resolve the dilemma. The scoring system (Kohlberg, 1973b) allows a measurement of the level of moral reasoning on the six level Kohlberg scale.

b. Rest Opinions about Social Problems Test (the Defining Issues Test). This questionnaire (Rest,1973) provides an objective measurement of the level of moral reasoning. It serves as an alternate to the Kohlberg measure. The focus is on the salience of particular issues of justice, fairness, "right and wrong" when the individual is asked to resolve the complex moral problems which are posed in the standard Kohlberg Moral Judgment Interview.

2. Ego Development

Loevinger Sentence Completion Test for Measuring Ego Development. This measure (Loevinger, 1966; Loevinger & Wessler, 1970; Loevinger, 1976) is designed to assess an individual's level of ego development, which is defined as one's frame of reference for understanding oneself and others. The essence of ego is the striving to master, to integrate and apply meaning to experience. Loevinger has defined a sequence of stages of personal development encompassing such concepts as impulse control, character development, and interpersonal style.

3. Sex Role Choices

Bem Sex Role Inventory. This instrument (Bem, 1974; Bem, 1975) reflects a person's perception of his or her own masculinity and femininity (as independent variables). An androgyny score reflects the relative amounts of masculinity and femininity that a persons include in their self description.

4. Community

Environmental Assessment Inventory. This measure (Stokols, 1975) focuses on the individual in a social context. It allows assessment of how much investment each student has in the social environment, his or her perception of the level of community, and the degree of trust, competition, security, etc., which exist in the residence environment. Included within the EAI starting with the class of 1980 were separate scales on Self-Esteem and Alienation.

5. Internal/External Locus of Control

Rotter I-E Scale. This scale (Rotter, 1966) is an attempt to measure locus of control, specifically an individual's perception of internal and external factors which govern behavior and events. The Rotter Scale, in conjunction with the Environmental Assessment Inventory, will measure changes in perceptions and expectations of the environment, one-self, and others.

6. Background Questionnaire. This questionnaire provides the student with a structured opportunity to report family background, expectations about UCI, choice of academic major, and possible career pursuits. It also requests ratings of factors influencing career decisions, preferences about leisure activities, importance of different possible outcomes of the college experience, and perception of one's abilities in relation to others. The Background Questionnaire is adapted from the Value Added Project at Harvard University directed by D. K. Whitla (Whitla, 1977).

7. College Experience Questionnaire. This questionnaire samples major experiences during the college years and one's opinions about those experiences in a self report format. The College Experience Questionnaire was introduced with the class of 1980 in the academic year 1976-77. The College Experience Questionnaire is adapted from the Value Added Project (Whitla, 1977) with additional items constructed by K. H. Nelson, J. Eberhardy, and K. Kerr.

The Survey Design, through the use of these instruments, aims at studying the impact of the curriculum experience, the developmental status of freshmen, and the longitudinal study of the development of moral reasoning in college students.

Tables 1, 2, 3, and 4 (See Appendix A) report what data has been or will be collected, as well as the time of collection, for the Sierra Experimental Group for the classes of 1979, 1980, 1981, and 1982 respectively.

~~Insert Tables 1, 2, 3, 4 about here~~

Tables 5, 6, 7, and 8 (See Appendix A) report what data has been or will be collected, as well as the time of collection for the Lago Control Group for the classes of 1979, 1980, 1981, and 1982 respectively.

~~Insert Tables 5, 6, 7, 8 about here~~

B. Intensive Design

The Intensive Design focusing on each individual as a case study, applies only to Sierra. This approach to data collection is aimed at investigating which specific experiences have the greatest impact on promoting individual growth. Data collection is continuous throughout the year. Major sources of data are student journals, sophomore staff journals, and staff reports. As this chapter is written (January of 1978), the intensive design is the least developed portion of the project evaluation. We intend to focus on developing the intensive design with the Class of 1982. The reason the intensive design has not been well developed has been the lack of a research specialist in this area on the project staff, and the fact the rest of the staff was too busy with other aspects of the project to put the time into developing the Intensive Design.

C. Topical Design

The Topical Design is intended to evaluate the impact of components of the Sierra curriculum, and applies only to residents of Sierra. Data is collected before and after specific modules of the curriculum are presented. For example, the College Self-Expression Scale (Galassi, Delo, Galassi, & Bastien, 1974; Galassi & Galassi, 1974) is used to evaluate the assertion training module. The GAIT Empathy Scale (Goodman, 1972) and the Carkhuff Empathy Scale (Carkhuff, 1969) and Carkhuff Gross Rating of Facilitative Functioning (Carkhuff, 1969) are used to evaluate the empathy training.

D. Random Control Populations

Perhaps the most perplexing design problem we have encountered is the nature of our random control populations. The Lago Control groups have a clear purpose: to allow us to study the effects of the curriculum on the Sierra experimental groups. Both Sierra and Lago students (for the classes of 1979 and 1980) at the time they entered the University as freshmen were motivated for personal growth. If Sierra students were found to change more than Lago students on some dimension, it may be claimed that this change was the result of the Sierra experience. If Lago students had not been motivated for the growth experience, the change in Sierra students may have been due to their simply having a higher motivation for personal growth and not related to the Sierra experience. The Sierra and Lago populations are generating information which bears directly on Goals 1 and 3 of the Sierra Project: namely, the evaluation of the curriculum and the identification of the experiences which have the greatest impact on the transition from late adolescence to early adulthood.

The random control populations are central to the generation of accurate information bearing on Goals 2 and 4 of the Sierra Project: namely, the study of the developmental status of college freshmen, and the longitudinal study of the development of moral reasoning in college students. The Sierra and Lago populations are also relevant. But our main focus in Goals 2 and 4 is on identifying true ontogenetic age changes. The random control populations are intended to help us separate the effects of age, cohort (students from the class of 1979 compared to students in the class of 1980 compared to students in the class of 1981, etc.) and time of measurement.

Since our research was, and is, being conducted in a "natural laboratory" setting, we have no "control" over the participation of subjects. Attrition in the sample was expected when we began the study, and is occurring (see Tables 15 and 16 later in this chapter). We further expected the most attrition to occur in our random control samples, since they had very little, if any, vested interest in the study. The Sierra and Lago populations had a certain spirit of involvement about them, with an expressed interest in the Project.

Since our design at the inception of the Project in the 1975-76 academic year called for testing in both the fall of 1975 and the spring of 1976, we had our first look at differential attrition for the class of 1979 in the spring of 1976. The level of cooperation in both Sierra and Lago was satisfactory, i.e., those who were tested in the fall reappeared in the spring for retesting. The attrition in the random control population was heavy, as Table 9 indicates.

Insert Table 9 about here

Further, inspection of the fall results of the members of the class of 1979 random control group who participated in the spring testing reveals that they are amongst the highest scorers on the moral reasoning and ego development measures both in the fall of 1975 and in the spring of 1976. They indicated a keen interest in the testing and its results, but there were only five of them.

Schaie (1973) noted that, "Most longitudinal studies will simply be limited by the nature of their sample of survivors, and the findings reported therefrom should be carefully identified as being restricted to similar populations" (p. 256). Our "sample of survivors" as far as the initial random control sample for the class of 1979 was concerned turned out to be small and unrepresentative.

The method of selecting this random control group has varied. In the second year of the project, a decision was made to adopt what is termed "collateral control groups." This decision was made after a consideration of new developments in life-span developmental methodology. These developments are seen as remedying deficiencies in traditional longitudinal and cross-sectional designs. The use of collateral controls with a sequential longitudinal and/or sequential cross-sectional design allows the separation of age, cohort, and time of measurement.

Collateral control groups are those selected, as Schaie (1973) notes, "in the absence of total control over one's subjects" (p. 255). Collateral control groups allow a scrutiny of "the effects of experimental attrition....to determine in what manner the sample deviates from its original representative nature at subsequent measurement points" (Schaie, 1973, p. 255).

Collateral control groups were first implemented with freshmen in the class of 1981. For the class of 1979, the random control group for the freshmen year was selected from the freshman student population of the Mesa Court undergraduate housing complex. This random control group was tested in both the fall of 1975 and the spring of 1976. Table 10 (See Appendi provides the testing schedule for the class of 1979 Random Control group.

~~Insert Table 10 about here~~

Starting in what was the sophomore year for the class of 1979, we initiated the use of randomly chosen Collateral Control Groups selected from the entire population of the class of 1979. Different groups have been or will be selected from the class of 1979 for testing in the spring of the junior and senior years, as presented in Table 11. (See Appendix A).

~~Insert Table 11 about here~~

For the class of 1980, the testing schedule for the Collateral Control groups is presented in Table 12. (See Appendix A)

At the start of the freshman year for the class of 1980 (fall 1976), we had not yet elected to institute the Collateral Control group approach. The freshman control group for that year (class of 1980) consisted of a group of freshmen who had been assigned to another freshman hall. In retrospect, we would not have made that choice again. But we wanted a different control group than Lago--one without the expressed motivation for the curriculum and the residents of Mirkwood Hall agreed to cooperate. Since we have collected the data, we will report it.

For the classes of 1981 and 1982, the choice of collateral control groups selected randomly from the class as a whole has been followed from the start, as presented in Tables 13 and 14 (See Appendix A).

~~Insert Tables 13 and 14 about here~~

The same individuals were tested in the fall and spring of their freshman year in order to give us matched pairs to compare with Sierra and Lago. The Control groups tested subsequently each spring are different for each of the four years.

Two problems with the selection of our random control population deserve mention. One problem has to do with the fact that freshmen as a whole tend to experience a high level of attrition in a research oriented major university. While a high percentage of them may go on to graduate four years later at some institution of higher education, the number who remain here for all four years and graduate from UC Irvine is /less than half (44%) of those who enter as freshmen, as Table 15 indicates.

Insert Table 15 about here

At this point in time, we have no idea what attrition to expect from our Sierra Experimental population as a whole, let alone the Lago Control and Collateral Control populations. Table 16 presents the best information we have on what has happened to our Sierra Experimental groups for the class of 1979 and the class of 1980, as far as participation in the testing is concerned.

Insert Table 16 about here

From the point of view of the generalizability of our results, we do know that attrition is occurring. As Schaie (1973) observes,

> ....it will also be necessary to determine whether the residual sample at subsequent measurement points is still representative of its parent population. In addition, the characteristics of the parent population may change through attrition over time in a systematic manner, but not necessarily in the same manner as the sample drawn from that population. (p. 255)

In summary, longitudinal research on a college age population in a naturalistic setting simply has to confront directly the question of how representative its final sample is of the population as a whole. Our approach has centered on having two controls--Lago and the Collateral Control. The Lago group for the classes of 1979 and 1980, to repeat, are freshmen who wanted to live in the residence halls with other freshmen, and who wanted to participate in the Sierra personal growth experience. The Lago Control group for the classes of 1979 and 1980 are the most similar to the Sierra Experimental Group in that they had expressed a shared desire--motivation--for personal growth in a community of freshmen. We view this as a very important self statement. The continued study of the 1979 and 1980 Lago Control populations, when contrasted with the Sierra Experimental group, will allow us to make inferences about the continuing differential effects, if any, of the Sierra curriculum. A basic assumption we are making (and hope) is that the sample size for Sierra and Lago will remain large enough over four years to make generalizations meaningful. Lago residents for the classes of 1981 and 1982 are important to study as well. While not expressing motivation for Sierra, they are all freshmen living together in circumstances identical to Sierra, except they do not have the curriculum.

The Collateral Control groups were selected following the "independent random sampling approach" to longitudinal study. Schaie (1973) defines this as:

> Specifically, a random sample should be selected from a given cohort at Time 1, and compared at subsequent measure-

> ment points with new random samples drawn from the same cohort. Depending on the mobility characteristics of the population base, this approach would require application of a model of sampling either with or without replacement. It is suggested that the latter model is perhaps the only case in which use of a representative sample for the study of developmental questions can be defended at all logically. (p. 255)

A second sampling problem is that ours is a study of repeated measurements. The Collateral Control groups allow us to assess the effects, if any, of these repeated measurements. Schaie (1973) defines the problem as:

> In any repeated measurement study, moreover, a sample ceases to be representative of its parent population as soon as it has been tested once, in the sense that its response characteristics have, of necessity, been modified by the initial assessment in a manner which is not characteristic of the parent population. That is, at subsequent measurement points, it will differ from any other random population sample in that the assessment tools or situations have previously been applied to the longitudinal sample, but to no other. (p.255)

Our sample should be particularly susceptible to the effects of repeated measurements since alternative forms do not exist for several of our key measurement devices, in addition to the increased "test-wiseness" of our Sierra and Lago samples. The counter argument--that one can fake low but cannot fake high on instruments like the Defining Issues Test (Rest, 1973) and

The Loevinger Sentence Completion Test (Loevinger & Wessler, 1970)--

is that with the measurement of subjects from a cognitive-developmental viewpoint, the usual effects of repeated measurements are minimized by the assessment of structure of thinking as opposed to content related thinking. Our argument would be that in assessing the growth of a subject's moral reasoning, for example, we are tapping the increases in structure of how he reasons about issues, not the content of his answers. The effect of having been asked the same or similar questions a year before is seen as relatively minimal. The resolution of this problem is beyond the scope of this research project. We We intend to make our data available to persons interested in investigating how samples such as ours differ from the parent population as a consequence of test effects.

Another factor which influenced our choice of design is the distinction between developmental change versus developmental differences (Huston-Stein and Baltes, 1976). The problem these researchers are addressing is that cohort differences reflecting a pattern that is "characteristic of the particular sociocultural conditions existing at the time of testing" (Huston-Stein and Baltes, 1976, p. 180) may distort the true ontogenetic age changes. If developmental criterion groups have differences between them, and they are composed of cross-sectional age or longitudinal age populations, these differences may not reflect ontogenetic differences. Huston-Stein and Baltes (1976) also pointed out that similarities among different age groups can mark ontogenetic patterns, and be reflective of either "current sociocultural conditions" or "strong situational influences."

Two additional design concerns noted by Huston-Stein and Baltes (1976) deserve mention, as they influenced our design. The first is the problem of longitudinal assessments of one cohort. As they state it,

> Longitudinal assessments of one cohort may reflect cultural-social changes or invariances as well as ontogenetic patterns, not to mention problems of retest effects and selective dropouts. They may also be affected by the interaction of ontogenetic development with historical events particular to that cohort. (p. 180)

The last decade has seen alternately student turmoil and quietude on campuses. It is clear that on dimensions related to the sources of the student turmoil alone, the experiences of one class of students have been quite different from those experienced by other classes of students. The same argument can be made about changing emphases in family behavior around child rearing practices, and what schools chose to focus on at one time or another as influenced by changing educational thought. Moreover, our experiences in working with the Classes of 1979 and 1980 as far as Sierra is concerned have found them to be quite different one from the other.

The second problem pointed out by Huston-Stein and Baltes (1976) goes right to the heart of what the Sierra project is attempting to measure: intraindividual change and interindividual differences in change. They present the problem as follows:

> A direct and valid assessment of the prime target of developmental work, i.e., of intraindividual change and interindividual differences in change, therefore is probably the rare exception and, at the same time, requires much more refined design methodology than is required for the bulk of child development work. Both for reasons of internal and external validity, the cross-sectional as well as the simple longitudinal method have been shown to be woefully inadequate for the study of developmental change. (p. 180)

They quote as illustrative support for their analysis of usual design deficiencies the Schaie (1970) demonstration that the supposed "decline" in adulthood in intellectual functioning based on cross-sectional studies could more adequately be explained in terms of cohort differences. The approach they advocate is the use of sequential longitudinal and/or sequential cross-sectional methods. What these methods do is separate the effects of age, cohort, and time of measurement. Sequential longitudinal and sequential cross-sectional methodology is relatively recent (Baltes, 1968; Buss, 1973; Schaie, 1970; Schaie and Baltes, 1975), and is reflective of the work of a group of researchers usually referred to as life-span developmentalists.

SECTION V.--Theoretical Underpinnings of the Curriculum

The Sierra project curriculum has been guided in its formulation in general programmatic ways by insights from both developmental psychology and counseling psychology. The day-by-day planning and implementation, however, is not based on any specific prescriptions from either developmental or counseling theory. The reason is that given the present level of theory, research, and curriculum formulation in developmental education, there is simply not enough known about the optimal match between the developmental level of students and the sequencing of education experiences to provide more specific direction.

A well articulated theory of social and personality growth is lacking in developmental psychology. It is not at all clear from previous psychological education programs what kinds of experiences for students at what levels of development lead to specific structural changes. As Rest (1977) summarized it, "developmental psychology is in such a state of tentativeness and growth that it cannot furnish detailed, scientifically proven directives for education (p. 33)." The same constraint applies to the current contribution which counseling psychology can make to developmental education. Developmental and counseling psychology have a number of significant contributions to make to curriculum development, however, and these have been very influential in the shaping of the Sierra Project.

Four fundamental concepts from developmental psychology are basic to understanding the Sierra Project: structural organization, developmental sequencing, interactionism, and equilibration.

A. Structural Organization

Structural organization provides the rationale for considering certain problem solving strategies as more adequate for living in the world than others. Structured competencies acquired in educational programs may be transferred to future living situations. The acquisition of cognitive structures of a more complex nature is an important goal, for these internalized conceptual frameworks and approaches to problem solving endure beyond the recall of specific content. In Kohlberg's (1969) view, cognitive structure refers to rules for "processing information or for connecting experienced events (p. 349)."

Cognitive stages are representations of the transformations of cognitive structures as they are accommodated to the external world, or restructured by it. Piaget (1960, 1964) has articulated the general characteristics of cognitive stages, which include distinct or qualitative differences between stages; an invariant sequence in the development of modes of thought; each sequential mode of thought represents an underlying thought-organization; and stages of thought-organization are hierarchical, increasingly differential and complex, displacing and reintegrating the structures found at earlier (and lower) stages of cognitive structure.

The conceptualizations of cognitive structures and structural organizations have a number of implications for the Sierra Project as far as our educational aims are concerned. Capabilities in decision-making and problem solving become the focus of our work in character development. Rather than indoctrination to a set of particular beliefs, our curriculum involves the explicit use of certain counseling and community building techniques directed at feelings such as trust, openness, empathy, etc. Our intent is to foster higher levels of structural organization rather than improved feelings for their own sake. Rest (1974a) conceptualized this intent well when he observed that:

> The developmentalist sees cognitive structure as the framework by which affective experiences are interpreted, and by which the strong, emotional experiences of today are translated into the commitments of tomorrow. Structure is emphasized; not the transitory awareness or feeling state. (p. 242)

B. Developmental Sequencing

The second concept from developmental psychology employed in the Sierra Project is that of developmental sequencing. This refers to the conceptualization of early stages of development as the prerequisites for later more complicated stages characterized by increased intricacy and complexity, allowing for the effective solving of problems of more scope. The sequence of development is related to the goal of an educational intervention in that the aim is to stimulate step by step development. The tasks of each stage must be mastered before the individual can successfully approach the next stage in the sequence.

The concept of developmental sequencing provides important information to the planning of a developmental intervention. Rest (1974a) noted two important points in this regard:

> 1) The characterization of the highest stage of development gives a psychological analysis of some competence--e.g., Piaget's stage of formal operations gives us an analysis of what it means to be logical; Kohlberg's "Stage 6" provides a description of what mature moral judgment consists...(p. 243)
>
> 2) ... if the educator has a step by step description of the development of some competence, then he has a means of ordering progress (knowing which changes are progressive), of locating people along this course of development, and therefore of anticipating which experiences the student will most likely respond to and from which he will profit. (p. 244)

This latter point bears directly on another related one encountered in planning the Sierra Project curriculum. Based on the stage levels reported in previous studies of high school and college samples of Boyd (1973), Kohlberg (1973), Mosher and Sprinthall (1971) and Erickson (1973), our belief when we began planning the project in 1974-75 was that we were engaged with college students who were in a transition from stage 4 conventional to stage 5 postconventional thinking. Our research design precluded knowing what stage or stages of development our students were in. While we had tested all of the Class of 1979 in the fall of 1975, during the first year of the Project, our research procedures dictated that none of the tests be scored until after the spring of 1976. This was because the Kohlberg moral reasoning protocols had to be transcribed, typed, coded, and submitted to the raters in such a manner that the rater could not tell which was a Fall protocol and which was a Spring protocol. A similar procedure was necessary for the Loevinger Ego Development measure, involving typing,coding, and submitting them to the rater in a way which precluded their telling which was a Fall protocol and which was a Spring protocol. Our initial curriculum planning in the summer of 1975, had been aimed at stimulating a transition from conventional to postconventional thinking. The first inkling we had that the faculty, but not the entering student, was interested in a curriculum that would stimulate postcoventional thinking came when we got practically no response to our initial description of the project. The description we sent out initially was worded as follows:

JUST MORAL COMMUNITY

> This hall will be a forum for exploring community living based on principles of fairness and justice. Kohlberg's theory of moral development will provide a basis for establishing principles for resolving conflict.
>
> Both the living environment of the hall and the institutions of society will be analyzed in terms of moral development theory.
>
> Interpersonal decisions will be evaluated from the perspective of seeking the fairest decision for all persons involved. Each student will elect a project involving either a study of some element of the interpersonal environment or a selected institution in the surrounding community.

> The hall will be located in Middle Earth. We will have the support of live-in teaching residents and professional staffing from both academic and nonacademic areas of the University. The hall's class will be offered for credit under the Human Development subarea of the Program in Social Ecology.
>
> If you are interested in choosing the Just Moral Community as a place to live, write "Just Moral Community" where we have asked for the name of the hall on the Personal Information Card.

The response was as though we gave a party and no one came. Only three students out of an entering class of 1,600 signed up. Our sophomore student staff had initially objected to the wording of our first description for freshmen. After our less than auspicious beginning, the sophomores prevailed on the rest of the project staff to let them write and send out a description of the program which they thought would convey to entering students what Sierra was about. Entering freshmen who expressed interest were then sent a long follow-up letter from the sophomores further describing the ambiance of the hall, the nature and expectations of the class, and the testing program. Freshmen who were still interested and who wanted to sign up for the program were instructed to return a signed post card. This yielded a return of 138 interested students. The staff was, of course, delighted. Having obtained a large sample, we failed to heed the initial sign from the first mailing indicating ~~what our freshmen were really interested in.~~ that these topics were not of immediate and/or significant concern to the freshmen.

We made every effort to provide "truth in advertising." The letter from the sophomores had described the sense of community in Sierra Hall, and the opportunity to learn more about oneself which had not been emphasized in the initial mailing. The random assignment of the 138 students to Lago and Sierra has previously been described. What we did not say previously was that four of the 44 freshmen students who actually ended up in Sierra in September 1975 from the Class of 1979, claimed to have returned the postcard marked "yes" without really reading the letter. While they chose to remain in the hall and participate in the project, our expectations about their motivation for the program and informed choice were not met.

Having learned our lesson the first year, we implemented a satisfactory screening procedure the second year for the Class of 1980. We sent out an updated version of the sophomore drafted letter which was signed by the new sophomore staff. The response was again sufficient for our research design.

But for the Class of 1981, we ended up with four student athletes whose sports schedule conflicted with the class and who did not want it anyway, one student who did not speak or read the English language well enough to do the work (or presumably understand fully the communications to him), and one student who dropped out of school too late to be replaced.

By the time we learned about the reluctant athletes, we were confronted with an awkward situation. Because all of the spaces in the other residence halls were by then full, our choice was either to force them to move off campus, to move them into other halls (and move those occupants, who did not want Sierra either, into Sierra), or live with the fact that we had four people in the hall who wanted the environment without the full program. We chose the latter, and learned another lesson about the real problems of attempting developmental intervention research in a natural~~istic~~ setting.

The point related to developmental sequencing is that we had had a first hint that the next growth step for our freshman was not to postconventional thinking. We did not recognize it. Our next indication once the school year started was in their lack of interest in developing a "just community" following the models articulated by Kohlberg (1975), Kohlberg, Wasserman, and Richardson (1975), and Wasserman (1976). This came up over and over again in curriculum planning meetings in the Fall Quarter 1975, and in Winter Quarter 1976, during the first year of the program. There was no hostility toward the "just community" or its rationale, just a much greater interest in the development of community, learning counseling skills, empathy training, assertion training, etc.

In late Summer of 1976, the results from the Kohlberg and Rest tests of moral reasoning were available, and we learned that our population of entering freshmen was almost entirely stage 3, the beginning of conventional thinking. A curriculum aimed at promoting a shift (stage 4 to stage 5) from conventional to postconventional thinking was simply not developmentally relevant to Sierra freshmen. During the second year of the program (1976-77) with the Class of 1980, planning of the curriculum could be undertaken with more understanding of the nature of our population. We expected our population to be in the process of consolidating conventional thinking, having recently completed the shift from preconventional to conventional thinking. Our expectation was based on the fact that the entering class was very similar in geographical background and socioeconomic status to the Class of 1979. While cohort differences do exist, the Southern California-Orange and Los Angeles County background (over 80 percent of our students) provides for considerable homogeneity in each entering class. In the summer of 1977, when the Rest and Kohlberg results were in, our assumption of conventional thinking in the Class of 1980, was confirmed empirically. Again, Stage 3 was the predominant mode of thought. Given the consistent conventional thinking found in our subjects, we turned to our demographic data to learn more about them. Additional insights into the nature of our sample had been provided by information contributed by the Background Questionnaire from the Sierra Project Survey Design, and by the participation of the University of California, Irvine in the Cooperative Institutional Research Program national survey of entering freshmen conducted jointly by the American Council on Education and the University of California, Los Angeles under the supervision of Alexander W. Astin. The Astin ACE survey provides demographic information about freshmen; their career and educational goals; and their opinions and attitudes about social, political, and educational issues.

Tables 17-28 (See Appendix A) report the political orientation, estimated parental income, and Father's and Mother's education and occupation for participants from the Classes of 1979 and 1980 in the Sierra Project.

~~Insert Tables 17-28 about here~~

The comparison groups are the ACE Cooperative Institutional Research national samples of 71,897 from 1975 (the Class of 1979) and of 85,006 from 1976 (the Class of 1980), and the UCI samples of approximately 750 from 1975 (the Class of 1979) and approximately 750 from 1976 (the Class of 1980). The UCI samples were from a total entering class of approximately 1,600 each year.[1] While there are some apparent differences in political orientation, the differences in parents' education and occupation reflected the large participation of minorities in the project. The striking facts for us were the dominance of conventional thinking and the homogeneity of background.

For the project staff, our experiences reported above coupled with the characteristics of the sample indicate the impact which developmental sequencing has on the nature of curriculum. Knowing a student's level of development provides a means of identifying which experiences are likely to be engrossing, and which will lead to further growth. Rest (1974a) has captured well the importance of developmental sequencing to the curriculum when he stated that:

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[1] The numbers varied slightly depending on item and definition of "entering." Comparisons between the UCI sample and the ACE national norms should be made with some caution, as the UCI response rate was approximately 50%, and an 80% response rate was recommended by the Cooperative Institutional Research Program.

> The adage that the teacher should meet the student at the student's level can be given precise and operational meaning if the course of development is defined and the student's level can be assessed. Knowing the course of development enables one to optimize the match between children and curricula and also serves as a guide for sequencing curriculum (p. 244).

C. Interactionism

The third construct from developmental psychology relevant to the work of the Sierra Project is interactionism, one of the means of promoting structural growth, and providing greater elaboration of the cognitive structures.

Interactionism refers to the process by which cognitive structures become elaborated, and is based on the significance of the relationship between the individual and his or her environment. Development is thought to be the result of the individual's active attempts to make sense of novel or disequilibrating experiences which call into question his/her previous assumptions.

Piaget (1970 a) indicated that knowledge "neither arises from objects nor from the subject, but from the interaction between the subject and those objects."(p.70

Kohlberg's (1969) view is that:

> Development of cognitive structure is the result of a process of interaction between the structure of the organism and the structure of the environment, rather than being the direct result of maturation

> or the direct result of learning (in the sense of a direct shaping of the organism's responses to accord with environmental structures). (p. 348)

An interactionist theory, as Kohlberg notes, is quite different from either maturation in the sense of combining growth or the specific product of specified learning experiences.

The difference between the interactionist approach and the maturational approach has been summarized by Kohlberg (1969) as follows:

> ...an interactional conception of stages differs from a maturational one in that it assumes that experience is necessary for the stages to take the shape they do as well as assuming that generally more or richer stimulation will lead to faster advances through the series involved. It proposes that an understanding of the role of experience requires: 1) analysis of universal features of experienced objects (physical or social), 2) analysis of logical sequences of differentiation and integration in concepts of such objects, and 3) analysis of structural relations between experience-inputs and the relevant behavior organizations.(p.356)

In this interactionist framework, experience is presented as necessary for a cognitive stage to be fully developed, which is a component of promoting transition to the next stage. Particularly for students in the Sierra Project who had just made the transition from Stage 2 to Stage 3, fully experiencing and resolving the tasks inherent in Stage 3 is an important basis for preparation for transition to Stage 4. The concept of "more or richer stimulation" which will lead to stage transition is an important contribution of the interactionist view as well.

Dewey developed an interactionist approach to education. Dewey's 1934 paper stated in part (Dewey, 1964):

> The great problem of the adult who has to deal with the young is to see, and to feel deeply as well as merely to see intellectually, the forces that are moving in the young; but it is to see them as possibilities, as signs and promises; to interpret them, in short, in the light of what they may come to be. Nor does the task end there. It is bound up with the further problem of judging and devising the conditions, the materials, both physical, such as tools of work, and moral and social, which will, once more, so interact with existing powers and preferences as to bring about transformations in the desired direction (Pg. 8).

The crux of the interactionist position as far as the curriculum of the Sierra Project is concerned is to devise the conditions which will "bring about transformations in the desired direction," in Dewey's phrase. The pioneering work of Mosher and Sprinthall (1971) represents an effective approach to translating the interactionist's concepts into a psychological educational program for adolescents. The focus of the initial work of Mosher and Sprinthall (1971) and subsequent work of their students (Dowell, 1971; Atkins, 1972; Griffin, 1972; Katz, 1972; Mager, 1972; Erickson, 1973; Rustad, 1974; Schaffer, 1974; Greenspan, 1974; Grimes, 1974; Lorish, 1974; Mackie, 1974; Felton, 1974; Sullivan, 1975, Paolitto, 1975; Stanley, 1975) has deeply influenced our approach to curriculum development and implementation. Very specifically, we attempted to devise experiences which would force the student to interact with himself or herself, with his or her student peers, with his or her faculty and staff, and with the community at large through field study. The use of journals in which students were required to reflect critically on the nature of their interacting was an attempt to force the development of new meanings about their experiences. The actual curriculum tasks are detailed in the next chapter. The point here is that theoretically the basis for much of our activity was the interactionist assumptions about how to promote structural change.

D. Equilibration

The fourth concept from developmental psychology which has influenced the work of the Sierra Project is that of equilibration, with the closely related compl~~i~~ementary concepts of assimilation and accommodation. Equilibration is the fourth factor Piaget (1964) identified as part of the interaction between the individual and the environment:

> First of all, maturation, in the sense of Gesell, since this development is a continuation of the embryogenesis; second, the role of experience of the effects of the

> physical environment on the structures of intelligence; third, social transmission in the broad sense (linguistic transmission, education, etc.); and fourth, a factor which is too often neglected but one which seems to me fundamental and even the principle factor. I shall call this the factor of equilibration or if you prefer it, self-regulation (p. 178).

Equilibration has been elaborated upon as a concept by a number of writers, including Kohlberg (1969), Langer (1969a, 1969b), and Kegan (1977). Langer's (1969a) characterization of equilibration is helpful in understanding its role in forcing self-development:

> Our own view is that the child is an active operator whose actions are the prime generator of his own psychological development. When he is in a relatively equilibrated state, he will not tend to change; he will only change if he feels, consciously or unconsciously, that something is wrong. This means that both affective and organizational disequilibrium are necessary conditions for development. When these conditions are present, the energetic or emotional force for change in action is activated, and stabilizing interactions between mental actions and the symbolic media in which they are represented can be constructed in order to generate greater equilibrium. It is this constructive activity that constitutes the force of self-development. (p. 36)

Langer also notes that the developmental problem is to "determine when the child's internal state of organization is capable of successfully coping with perturbations (1969a, p. 36)" and to "know in what way the child is able to accommodate to a given type of perturbation at successive stages of development..."(1969a, p. 36)

For Kohlberg (1969), an analysis of the relation of the structure of a child's current stage of reasoning to the structure of a specific experience is an equilibration analysis employing such notions as "optimal match," "cognitive conflict," "assimilation," and "accommodation." As Kohlberg (1969) stated it:

> Whatever terms are used, such analyses focus upon discrepancies between the child's action system or expectancies and the experienced events, and hypothesize some moderate or optimal degree of discrepancy as constituting the most effective experience for structural change in the organism. (p. 356)

As was explored earlier in this chapter, not enough is known yet about what are the most effective experiences for promoting structural change. The question, of course, is much more refined than the mere identification of "effective experiences." Enough is now known to direct work toward identifying what experiences in what order influence individuals at specific structural levels of development.

The equilibration theory is helpful at this stage of curriculum development because it provides guidance in looking at stage level, and sequencing, how the student interacts with the environment, and ways to increase the impact of that interaction.

The processes of assimilation and accommodation help clarify how the individual understands new experiences, and how new experiences lead to structural change. Assimilation and accommodation are complimentary processes. Assimilation refers to the process by which the outside world is understood within an individual's current mode of thinking. Accomodation arises when existing thought patterns are not adequate to fully understand new experience, thereby creating cognitive conflict or disequilibrium. Kohlberg (1969) has stated that since "the direction of development of cognitive structure is toward greater *equilibrium* ... (p. 348)," accommodation is part of the process by which the mode of reasoning is modified to better understand new experiences. As Sullivan (1975) puts it,

> When this happens a new, more stable form of thinking is established and the process of equilibration is said to have occurred .... Each successive equilibration provides a more complex, more stable way for the individual to interpret and interact with his environment (p. 35).

While assimilation and accommodation are seen as compl~~i~~ementary, they are also quite different in function. Their differences help clarify the nature of the growth tasks facing freshmen in Sierra. Based on our initial normative data, Sierra freshmen have just made the transition from preconventional thinking to the first stage of conventional thinking. As a group, they are experiencing both a new and stressful University environment, and a new, albeit conventional, way of understanding the world. Were it not for assimilation as a thought process, the Sierra freshmen would have no stable, dependable way of relating to those around them. Since past ways of approaching the world, however, are not adequate for the new experiences--both those presented by the peer and University culture, and those presented by the formal Sierra curriculum--accommodation is a vital thought process for promoting new equilibrations.

Since their level of stage development is at the very bottom of the conventional thinking spectrum, we see the promotion of both types of thinking, assimilation and accommodation, to be important goals of the Sierra Project.

Assimilation is vital to the full exploration of new issues of living from the new Stage 3 perspective, and for exploring the peer and University culture to the fullest within the context of an established framework for viewing the world. This process of promoting growth through the consolidation of Stage 3 with the many competencies involved, is an important part of being a freshman within the context of the Sierra Project and the broader University.

The process of reaching toward more adequate ways of viewing the world, however, is an important educational goal, and an aim of Sierra curriculum is to present tasks which are structured in such a way as to foster accommodation, and the forming of higher level cognitive structures.

E. Psychological Sense of Community

A concept from counseling psychology which is basic to an understanding of the Sierra Project is the development of a psychological sense of community. Our definition of a psychological sense of community is the following: the presence of high levels of trust, cooperation, and mutual feelings of security and support among members of a community, with very low levels of alienation and hostility.

The concept of community is by no means unique to counseling psychology. Nisbet (1966) said, "The most fundamental and far-reaching of sociology's unit ideas is community" (pg. 47). The approach to measurement of community which we chose to adopt was the *Environmental Assessment Inventory* developed principally by an environmental psychologist (Stokols, 1975) whose major interests at the time were the study of alienation, density, stress, and crowding.

A first problem we encountered was one of definition. Community is used to mean so many different things. Hillery (1964) found more than ninety different definitions. In connection with the use of community in a character development project, it is necessary to comment on the "muddled thinking" which has existed in the past when moral issues and community have been linked. Scherer (1972) offered this perspective:

> At present, perhaps the most tenacious pull of the community is in its moral implications. To share interests and live together requires agreement on rules, concern for others, and a commitment

> to the group. The idea of belonging, and being a part of a larger association, is most attractive to the insecure and frightened. It can also be a ferocious web of affiliations that strangles individuality and restricts freedom to the confines of the circle. Churches are the most obvious centres for moral communities, but one finds them wherever group goals are symbolic and behavior is prescribed by ethical regulations. When people refer to community in this sense, there is often some muddled thinking on the concept (pp. 5-6).

The point for the Sierra Project is that the literature does not prove particularly helpful in getting greater clarity of meaning, or in understanding the interrelationship of character development and a sense of community. It is necessary to define community carefully, and to articulate its relationship to other concepts.

A goal of the Sierra Project is to raise the level of moral reasoning of the participants. Kohlberg's (1975) paper outlined how he had come to utilize the "just community" approach based on what he considered "universal educational goals" which are "free of the charge of indoctrination and cultural bias (p. 3)." The initial implementation of the "just community" approach was in a prison (Kohlberg, Kauffman, Scharf, and Hickey, 1975; Scharf and Hickey, 1976) where the social atmosphere and justice structure were modified deliberately in an effort to stimulate moral growth. Subsequent to the prison work, Kohlberg and his colleagues attempted the development of a just community high school intervention (Kohlberg, Wasserman, and Richardson, 1975; Wasserman, 1976).

Two statements by Kohlberg help clarify what he and his associates have in mind when they consider the "just community" as a vehicle for stimulating upward movement through the moral stages. First, Kohlberg (1975) wrote:

> A just community approach promotes moral character development and responsibility: (a) through living in an atmosphere of fairness and developing relations of loyalty and trust; (b) by taking responsibility for making and enforcing rules on oneself and other members of the group; and (c) through a better understanding of the society in which we live (p. 6).

The first of these three points, an atmosphere of fairness, loyalty, and trust, is very similar to what we are attempting to foster and measure under the rubric of a psychological sense of community. The second of these points, taking responsibility for the rules of conduct for the group, was much more difficult for us. There are several reasons for this difficulty.

First, there are very few rules of conduct for the residence halls of which Sierra is a part. There are no intervisitation rules: men and women students are allowed in each other's rooms at any time. Public consumption of alcohol or smoking of marijuana is not permitted, but students' rooms are considered their property and not subject to arbitrary search. The possession of a firearm on a campus of the University of California is a felony under state law, and this law is strictly enforced. Other than these few rules, students are expected to act as adults without the University in the role of a parent. They may set their own rules for quiet times if they wish.

The formal obligations of freshmen in Sierra were to participate in the testing program, attend class on a regular basis, and turn in their journals at specified times. Since these rules had been accepted by the freshmen prior to their moving in, there were really not many outside rules or authority issues to contend with. In fact, the only real challenge to the fairness of the Project which has occurred in the first two years was what we have called the "Chicken Little Incident."

This incident began at one of the meetings of the entire Sierra Hall freshman group with the Resident Assistant (RA). A little background is necessary at this point to appreciate the incident. The RA is usually an upper division undergraduate student selected both by a student panel from throughout the Mesa Court undergraduate housing complex, and by the Housing staff. Each year over 200 students apply to be an RA, with 23 ultimately being selected. RAs, because of the rigor of the selection process, have an excellent reputation. As a group, they are the focal point for the interaction between the students and the administration of the Housing complex. One thing an RA has, which no other resident has, is a master key which will open all the doors in a given hall. The RA has a key which will open all doors in Sierra Hall, and thus is the salvation of students who lock themselves out of their rooms.

At this particular meeting, the RA said he felt that students were not taking enough responsibility for keeping track of their own keys. He said that unlocking doors was not in his job description. Further, he didn't want students to expect that at anytime they could get him to open doors for them, especially between 2:00 a.m. and 10:00 a.m. Some students replied that the RA never had a sign up on his door telling people when he was asleep.

One student took great offense at this unwillingness to use the key to open the door at any hour of the day or night, but did not voice his concern then. After the meeting, he began circulating among the other students complaining about how awful, unfair, and unreasonable it was of the RA to take such a position. He further tried to generalize this issue to the rest of the RA's performance of his duties. This extreme generalization led us to use the "Chicken Little" analogy. At first other freshmen students responded positively to the "unreasonableness" accusation. Further reflection on their own led to reconsideration by almost everyone, however, and the RA's sleep usually remained undisturbed during the hours in question. Our regret, from a developmental point of view, is that a substantive challenge did not develop on a more consequential issue.

The second reason why it has been difficult for us to get students involved in the rules is the fact that as entering freshmen they are so conventionally oriented, and so accepting of what they are told. Our initial efforts are aimed at undoing, as much as we can, their uncriticalness about what the staff has to say.

Perhaps working with students at a higher stage of development would lead to a different instructional experience. And certainly an atmosphere of greater campus restriction would provide more impetus to students' taking initiative over rule setting. As entering freshmen, however, the students are more interested in exploring their new freedoms from parental sanction, and learning how to survive academically, and have little interest in exploring rules.

An experience we had at the start of the first year of the project was instructive to us in this regard. One student earnestly requested that he be allowed to take the Sierra class even though he was not able to live in the Sierra Hall. This request raised a number of issues. How many students could we work with successfully? Would someone not living in Sierra Hall be able to fully participate in the development of community? Was it fair to let him in when all other applicants had been told that living in Sierra Hall was a requirement? The questions raised were numerous, and the ultimate decision by the staff was not to allow the student to participate. The point is that some of the staff wanted to use the issue to get the entering freshmen involved in decision-making about the Sierra Project, and to engage them in a consideration of the issues of fairness which were imbedded in the questions. The spirited advice we got from the sophomore staff was that the freshmen at that time (the first week of school) would not be at all interested in the questions, and would in any event want to defer to what the staff wanted to do. The advice we received about other interests predominating at the time was sound, given the anxiety surrounding the start of classes and the resulting worry about academic survival.

A broader and more perplexing issue is the stance our entering freshmen take toward responsibility for their learning. They have just left home--many for the first time--from an environment where parents still make many decision for them. They have just left high school--where the overwhelming majority have experienced a learning environment which is highly structured for them by their teachers. Assuming dominant responsibility for what happens to them personally and academically is a new issue, and an important transitional one as they move from late adolescence to early adulthood. We did not find it possible to harness the growth implications of this transitional issue at the start of the freshman year.

The third of Kohlberg's points, aiming toward a better understanding of society, is something we approach through field study and through attempting to interest Sierra freshmen in accepting greater responsibility for what they are learning. The formal Sierra curriculum directly aims at helping them learn more about themselves and society.

Kohlberg (1975) holds that "moral development arises from social interaction in situations of social conflict" (p. 6). An important implication of this statement for the "just community" is the fostering of rules and decisions made by staff and students in a framework considered fair by all:

> The gains to the students will be the opportunity to participate in a democratic community where they will have equal status with staff with regard to making and carrying out the rules by which they will live (p. 6).

A key premise is that students should be involved in making the decisions which greatly affect them. Kohlberg (1975) stated this point as follows. The program of a just community school:

> ...emphasizes the creation of a "constitution" or social contract that is shared by everyone in the community. This process involves the students in taking responsibility for developing and enforcing the rules, understanding others' points of view, and developing reciprocity in human relations. (p. 7)

The special circumstances surrounding rules have been previously commented upon. The formal curriculum through the teaching of empathy and listening skills aims at increasing student understanding of others' points of view. Reciprocity in human relations is a key part of the informal curriculum of living in a residence hall situation. It is also part of the formal curriculum, particularly in the assertion training and SIMSOC modules.

The Sierra Project is organized in such a manner as to encourage full student and staff participation. The University of California is a hierarchical structure with the constitutional authority resting in the Systemwide Board of Regents. Broad powers are delegated to the faculty for the curriculum and to the campus Chancellor for the administration of the campus. For the purposes of the Sierra Project, the present writer has considerable delegated authority. As Dean of Students, he is responsible for the administration of the residence halls. As a member of the Social Ecology faculty, he is responsible for the academic credit for the freshmen, the sophomore staff, and the participating graduate students.

The problem at the beginning of the Project was how to delegate this hierarchically derived authority in such a manner that the intent of full participation in decision-making would be accomplished, since such participation was seen as an important catalyst for developmental change.

At the inception of the project, the immediate problem encountered in the summer before the arrival of the first freshmen was that the staff was coming to the present writer trying to get him to side with one faction or another, rather than trying to work things out in a participatory manner. This problem was further compounded by two additional factors. The first factor was that none of us were at all certain how to proceed or what success we would have involving freshmen in the project. I remember fantasizing that several types of "catastrophies" would occur: for example, not enough freshmen would sign up, they would rebel and not take the post-test at the end of the year, or that Lago freshmen or the random control group would change more than the Sierra freshmen. We were embarking on an exploratory educational experiment with very little to guide us on how to deliver a developmental intervention to a residence hall population, and uncertainty on how to proceed was the circumstance we found ourselves in.

The second factor was that two groups on the staff were not getting along at all. The graduate students opted for the role of experts on everything theoretical about the project. The sophomore students, not surprisingly, opted for the role of experts on freshmen. Both groups "used" their expertise unremittingly on the other, and each had a much higher level of certainty about these topics than the present writer felt. It did not take long to personalize the conflicts, which resulted in practically no cooperative work.

From my perspective, we were dependent upon the full cooperation and contribution of all the staff. Since the freshmen were arriving in two months, with much difficult work left to be done, I decided to specifically delegate authority over the curriculum to a group consisting of members of each of the contending "factions," and over the development of the research component to another group likewise composed of members of all "factions."

Specific staff were assigned to either the curriculum or research teams, but everyone was free to go to any meeting of either group. Further, we agreed that if impasses developed, any member of the staff could call for a general staff meeting. So far this has not occurred. In hindsight, this or a similarly functional organization should have been specified at the start, but no one knew to do that.

The curriculum has been presented in a manner intended to foster full participation by the staff--professional, graduate student and sophomore--as well as by the entering freshmen. The week-by-week details of this participation are presented in the next chapter.

While our measures of community were developed by an environmental psychologist, and the delivery was largely from the perspective of counseling psychology, a number of other perspectives shaped our thinking within the project.

Kanter (1972) wrote a sociological perspective on communes and utopias. In the process, she made a number of observations about the nature of community which have proven helpful to us. One is that there are "important organizational considerations to be taken into account in building a viable community." (Preface, p. vii) The problems of organization we reported immediately above certainly bear this out.

A second useful observation by Kanter (1972) is that many approaches to community have been based historically on a psychosocial critique of society very similar to that held by members of the Sierra Project staff:

> This critique revolves around alienation and loneliness, both social isolation and inner fragmentation. It holds that modern society has put people out of touch with others and with their own fundamental nature. It rejects established society's emphasis on achievement and instead adopts as its credo "self-actualization" or "personal growth." (p. 7)

Our viewpoint is that the nature of the traditional educational experience forecloses certain types of growth, importantly for our purposes, character development. Our aim is to create a climate of community which will foster character development while at the same time provide skills which will facilitate academic achievement within the broader University community. In perspective, only four academic units out of a normal load of sixteen per quarter are earned within the Sierra Project, and student participation is only for one year out of four.

A related observation of Kantor (1972) is the similarity of some aspects of utopias to portions of our own endeavor. The overlap is in the desired nature of the environment:

> ...people work and live together closely and cooperatively, in a social order that is self-created and self-chosen rather than externally imposed...harmony, cooperation, and mutuality of interests are natural to human existence, rather than conflict, competition, and exploration, which arise only in imperfect societies. (p. 1)

Society we concur is imperfect, as are our educational institutions. Rather than withdraw, however, our belief is that we can use that element of human interaction so basic to the utopian dream--community--and utilize it as a force for the development of skills to more adequately live in society. Further, and importantly, a community can be the basis for raising the level of reasoning about moral issues.

Scherer (1972), another sociologist, provides a number of observations we found to be quite valid. Communities will always exist because "man is a social creature" (p. 2), the "circumstances of modern societies seem totally inimical to a sense of community...(preface, p. xii)," community is not a simple concept, and "community may be thought of as the other side of the coin presented in the dominant twentieth-century concern with 'alienated' man" (p. 1). For our purposes we conceptualize the urge toward community, while complex, as being basic to human nature. By tapping into it as an educational resource, we are reaching a very powerful medium for involving people in changing themselves, and for sustaining that involvement.

Sarason has written extensively on community (Sarason, Zitnay, and Grossman, 1972; Sarason, 1972; Sarason, 1974). In Sarason (1974) he focused on the prospects for a community psychology. In doing so, he began by reporting one of the obstacles he encountered in undertaking the book:

> Could I write a book about community psychology without putting into center stage my belief that the dilution or absence of the psychological sense of community is the most destructive dynamic in the lives of people in our society? That I hold this belief is less persuasive than the fact that it has been for several hundred years a theme noted and discussed with ever-increasing frequency and urgency in Western Society. (Preface, p. viii).

Such a view is very similar to that held by other writers who have influenced our thinking, Rogers (Rogers, 1970) and Coulson (Coulson, 1973), both of whom are humanistically oriented psychologists.

A converging body of literature from sociologists and developmental, clinical, community, and counseling psychologists have all drawn attention to the importance of a psychological sense of community to the improvement of the human condition. They disagree about specific structures in which it can be developed, and how the development of community is related to fostering other goals, such as character development.

Sarason (1974) closed his book with some important cautions, particulary the need to avoid naiveté about the relation of a psychological sense of community to action:

> Agreement on values is easier to reach than agreement about the appropriateness of value-derived actions. This alone should caution one against the tendency, tempting and understandable, to assume that because the psychological sense of community is a value which should inform action, it is a value that ensures certain desired outcomes. The failure to resist this tempting oversimplification leads only to disillusionment. (p. 269)

The core content of a psychological sense of community, however, does appear quite simple, and this simple core in our view accounts for Sarason's observation about:

> "...how earnestly people strive to be and feel part of a network of initimate relationships that gives one the sense of willing identification with some overarching values." (p. 2)

For the Sierra Project, this core content is the effort toward the creation of a setting characterized by trust, cooperation, mutual feelings of security and support, with very low levels of alienation and hostility.

F. Empathy, Social Perspective Taking, and Moral Reasoning

Three groups of researchers working quite independently and with different methodological approaches have identified the relationship between empathy, social perspective taking, and moral reasoning.

The first group of researchers is composed of Mosher and Sprinthall and their associates (Mosher and Sprinthall, 1970; 1971). Their pioneering work in deliberate psychological education was intended as a means to promote personal development during adolescence. As they stated it (Mosher and Sprinthall, 1971):

> Our objective is to make personal development a central focus of education, rather than pious rhetoric at commencement, a second-order concern of the English curriculum or the private guilt of committed teachers and counselors. (p. 3)

Their discovery of the relationship between empathy and moral reasoning was made as part of an experimental course in teaching high school students counseling skills, part of a broader effort of offering high school students courses in psychology for academic credit.

From a background in counselor education, both researchers realized the effects which counselor training can have on a participant:

> ...we realize that the seminar and practicum experiences in counseling were powerful tools for raising questions of personal

> identity, the meaning of a helping relationship, understanding one's self and others in comprehensive ways, the complexity of hearing and responding to another person's ideas and feelings, the importance of emotions, etc.; in short, the whole array of questions counselors have traditionally confronted as a result of supervised counseling experience. (p. 15-16)

Their evaluation approach included a number of different measures. The Kohlberg Moral Development Scale and the Loevinger Scale of Ego Development were used to measure psychological growth.

Counseling skills were assessed using three scales developed by Carkhuff (1969): empathy, genuineness, and immediacy. Where their control group of a psychology class with no counseling skill training showed no change in moral reasoning and ego development, the experimental group changed on each significantly. Both empathy and immediacy changed upwardly as a result of the counseling training. This work has been replicated by subsequent researchers, including Sullivan (1975) and Dowell (1971).

The second group of researchers consists of Hogan and his associates (Hogan, 1969; Hogan, 1973; Hogan and Dickstein, 1972; Grief and Hogan, 1973). The measurements of empathy used by Mosher and Sprinthall (1971) in their research were derived from the client-centered tradition. Hogan (1969), however, developed a scale to measure empathy derived from the California Personality Inventory and the Minnesota Multiphasic

Personality Inventory. In the Grief and Hogan (1973) paper, empathy is a "sensitivity to the needs and values of others" (p. 280) and is conceptualized as a "major element in role-theoretical accounts of interpersonal behavior" (p. 280). The role-theoretical literature was noted to include Cottrell (1971), Goffman (1959), Kelly (1955), McDougall (1908), Mead (1934), and Sarbin and Allen (1968).

Grief and Hogan's (1973) paper related empathy to understanding moral development and moral conduct. Instead of references to Kohlberg and his developmental stage approach to measurement, these researchers drew on the work of Hogan (1973), Baier (1965), and Wright (1971). For Hogan (1973) moral conduct can be explained, and the development of moral character can be described, in terms of five concepts : moral knowledge, socialization, empathy, autonomy, and a dimension of moral judgment. The work of Hogan and his associates is essentially a trait model contrasted with Kohlberg's developmental model.

The third group of researchers is Selman and his associates (Selman, 1976a; Selman, 1976b; Selman & Byrne, 1973; Selman, 1971; Selman & Damon, 1975). Selman's research has centered on the development of role-taking ability and social perspective taking, particularly as it affects the development of moral reasoning in children. Selman's methodology has been similar to that of Piaget (1929) and Kohlberg (1969) in which dilemmas are used to engage the structure of moral reasoning which the child is using to resolve the issues of competing claims. Although he presents a fixed series of dilemmas, the probe questions that follow are more open-ended, and vary somewhat in an effort to crystallize the underlying logic that the person is using to resolve the problem. Once Selman has completed the clinical interview, the child's thinking is scored for its structural aspects from three perspectives (Selman, 1976b):

> (1) the subject's own point of view, (2) the different viewpoints of each character in the dilemma, and (3) the relationships among these various perspectives. (p. 302)

Selman also scores for the child's conception of the motives and feelings of others as this relates to moral judgments. Selman (1976b) describes role taking as intermediate between logical and moral thought as a social cognition:

> According to this outlook the child's cognitive stage indicates his level of understanding of physical and logical problems, while his role-taking stage indicates his level of understanding of the nature of social relationship, and his moral judgment stage indicates the manner in which he decides how to resolve social conflicts between people with different points of view. (p. 307)

A crucial distinction Selman makes is between moral judgment and social role taking. In his view, moral judgment considers "how people *should* think and act with regard to each other..." (p. 307) In contrast, social role taking considers "how and why people do *in fact* think about and act toward each other" (p. 307).

The outline of the parallel structured relations between social role-taking and moral judgment stages is an important contribution which Selman has made. Since his work has been primarily with children, it is not directly applicable to the work of the Sierra Project. Extrapolating from his work with children, however, and in concert with the work of Hogan and associates and Mosher and Sprinthall and associates, there is a clear indication in the literature that empathy, the capacity to see the world as others see it, and moral reasoning, are integrally related to one another.

Because of its greater applicability to late adolescence and early adulthood, and its basis on a developmental rather than a trait model, the Sierra Project uses the methodology and assumptions of the Mosher-Sprinthall approach.

G. Assertion Training

Assertion training is the final concept from counseling psychology which has been an important contribution to the Sierra Project. As with a psychological sense of community, assertion training is not the sole province of counseling psychology. In its early formulation by Salter (1949) in a book entitled Conditioned Reflex Therapy, through the pioneering work by Wolpe and Lazarus in the 1950's and 1960's (Wolpe, 1958, 1969, 1970; Wolpe and Lazarus, 1966; Lazarus, 1968; Wolpe, Salter, and Reyna, 1966), assertion training was largely the province of behavior therapists, and its applications were largely oriented to therapy patients.

The widespread application of assertion training techniques to the general public as a means to living more effectively is largely a phenomena of the 1970's. The specific approaches to sexuality assertiveness training, assertion training for job interviews, and assertion training for women have been provided in large measure by counseling psychologists, with a focus on helping normal people eliminate dysfunctional interpersonal behavior.

The trend toward the increased use of assertion training is both a realization that individual change does not always require extensive psychotherapy, and an attempt by the counseling profession to provide the opportunity for such change to a much broader section of the population. Assertion training reflects a movement toward providing counseling for anyone who thinks that he or she can benefit from it and who is willing to do the work to help himself or herself. This trend is reflected in the increasing number of techniques and procedures which are based upon a "health" rather than "illness" model of psychotherapeutic intervention. Assertion training falls into the "health" model category.

The next chapter provides specific details about how we implemented assertion training with the Sierra freshmen. In the balance of this section, assertion training will be described in general, and the rationale provided for its employment in a character development project.

Assertion training encompasses behavioral rehearsal, modeling, successive approximation response shaping, positive reinforcement, and cognitive restructuring of the belief systems which direct behavior. It is a psychological intervention which treats intrapsychic or mediating variables of behavior. Specific, overt behaviors as well as feelings, thoughts, and fantasies are the subject matter of behavior change in most models of assertion training.

Assertiveness has been variously characterized. R. M. Whiteley (1976) described it as:

> Assertiveness is the direct, honest, and appropriate expression of one's thoughts, opinions, feelings, or needs. Assertive behavior involves a high regard for one's own personal rights and the rights of others. It is ethical and responsible, yet firm. Unassertive behavior is characterized by communicating less than one wishes in an avoidant, passive, or wishy-washy manner.

> Assertiveness is differentiated from aggressive behavior, where one expresses oneself in a direct and even honest manner but where one is also attempting to hurt, put down, embarrass, or upset another person. (p. 233-234)

In working with students, a first task is to help them learn to discriminate amongst assertive, nonassertive, and aggressive behaviors. For college freshmen, they are established for the first time in their lives in an environment where they are free to fully express themselves. Learning to identify their own personal rights is often a new, challenging, and liberating experience in and of itself. Becoming cognizant of the rights of others in different situations is also often a new experience.

Assertion training, according to Lange and Jakubowski (1976), incorporates four basic procedures:

> 1. Teaching people the differences between assertion and aggression and between nonassertion and politeness;
>
> 2. helping people identify and accept both their own personal rights and the rights of others;
>
> 3. reducing existing cognitive and affective obstacles to acting assertively, e.g., irrational thinking, excessive anxiety, guilt, and anger; and
>
> 4. developing assertive skills through active practice methods. (p. 2)

Within the Sierra Project, the personal growth component of assertion training is viewed as providing the students with skills to help them live more effectively in their adult lives. In addition to providing skills in living more effectively, we see assertion training as offering specific contributions to promoting character development. This is the fundamental reason that assertion training has been accorded a place in the curriculum.

Assertion training assists with character development by offering a means of helping students rethink their beliefs about issues of fairness and justice, then provides them with the skills to implement their newly acquired conceptions in how they actually conduct their lives.

The contribution of assertion training differs depending on the stage level of the population with which it is being employed. In the Sierra population, almost everyone clustered around Stage 3. The transitions we were trying to effect, then, were either from Stage 2 to Stage 3, or Stage 3 to Stage 4. The remainder of this section will focus on the theoretical issues involved in each transition as they influence how assertion training is employed in character development.

Assertion training as an intervention was expected to affect
those
characteristics of Sgage 2 individuals differently than /individuals at Stage 3.
aimed at
For Stage 2 individuals, assertion training is/those beliefs and the
of those beliefs
consequences/frequently associated with Stage 2:

1. The "What's in it for me" orientation which leads to aggressive behaviors and a lack of regard for the rights of others.

2. The "It's not fair if I don't get what I want" and "It's not how you play the game but whether you win" orientation that leads to exploitative and unfair actions, usually of an aggressive nature, but sometimes of an assertive one.

With a Stage 2 individual, assertion training attempts to accomplish the following:

1. Promote perspective taking by helping people identify the rights of others in interpersonal transactions;

2. help individuals develop a belief system in which the rights of others are to be respected and acknowledged;

3. help people move from aggressive behavior to more appropriate assertive behavior;

4. promote a belief system which devalues the cognitive antecedents of some aggressive behaviors characteristic of Stage 2 such as "winning over others" or "it is my basic right in life," and "As a prerequisite to feeling OK about myself, I must get my way at the expense of others"; and

5. give people practice in stating their goals for an interpersonal transaction in terms of their own behavior rather than what they want from others.

On point "3," changing from aggressive behavior to assertive behavior will result in different consequences from the behavior. Individuals who behave assertively are much more likely to receive approval from others than individuals who behave aggressively.

With a Stage 2 person, assertion training will increase the availability and potential of approval as a consequence of their behavior, which is expected to thereby make it a more potent reinforcer, which in turn should lead to valuing approval as a positive consequence of one's behavior. The application of assertion training in juvenile diversion programs is an example of the utilization designed to lead to personal approval as an outcome.

For Stage 3 individuals, assertion training is aimed at the following characteristics frequently associated with that stage:

1. Approval seeking;

2. avoidance of conflict;

3. avoidance of risk-taking which might jeopardize relationships;

4. lack of discrimination regarding what and whose approval is valued;

5. immediacy of approval in relationship transactions which determines the rightness and wrongness of actions; and

6. lack of tolerance for differences in others.

With a Stage 3 individual, assertion training attempts to accomplish the following:

1. Develop a concern for and awareness of personal rights in relationships, both those belonging to oneself and to others;

2. promote a belief system which helps ~~a person~~ people give permission to themselves to have personal rights and to act on those rights;

3. encourage people to choose goals for themselves independently of the demands or pressures from others;

4. promote the self as the evaluator of behavior rather than relying on others to determine the evaluation; and

5. break/down sex role stereotypes through a concept of personal rights which are broader than sex-typed role behavior.

On point "5," the object is to establish a basis for new behavior choices by helping people identify contradictions between personal rights and socially prescribed sex-role imperatives.

Stage 3, the preponderant level of Sierra students, has a central theme of social relationships organized around a conformity to the personal expectations of others. Defining rights--yours and others-- is a natural action.

Selman (1971) distinguished between Stage 3 individuals and those at a lower level on the dimension of reciprocal role taking. Stage 3 individuals can be mutually aware of each other's point of view, and share that awareness. Lower stage individuals cannot.

Rest (1974b) drew attention to an additional feature of Stage 3 thinking: the capacity to view social interaction over time. As he phrased it, "Each party knows what the other expects, wishes, and acts to support those expectations"(p. 11). The core characteristic of Stage 3 in Rest's (1974b)presentation of it is the "establishment and maintenance of positive, stable, reciprocal relationships whereby each party in the relationship is kind, thoughtful, and helpful"(p. 11). Within one's circle of family and friends, an action is characterized as good if it is "well motivated," and has a concern for the approval of the "significant other." Even without a consideration of the stage change implications of assertion training, it is a mode of intervention which leads to more satisfying living within Stage 3. Respecting other's rights will result in their approval. Obtaining your rights without interfering with another will maintain approval. Such an approach helps maintain relationships over time.

Assertion training is a force for transition to Stage 4. Stage 4 has the theme of maintaining the social order for its own sake. Conflict resolution is a necessary skill to maintain order, and the basic rules and structure of society.

Once an individual moves beyond his or her intimate circle, Stage 3 no longer provides guidelines for living, as roles are not specified impersonally, with rights and responsibilities defined so that persons outside a close association know what to expect. Rest's (1974b) characterization of Stage 4 is that:

> The stabilization and coordination of human interaction depends on people knowing what to expect from each other. Stage 4 establishes this by law: norms for behavior that are publically set, knowable by all members of society, categorically and impartially applied, and enforced impersonally as a society-wide concern. (p. 16)

For promoting transition, assertion training forces the participants to consider the rights of people beyond their immediate circle, and with a conflict resolution model, presents skills to help maintain the established order.

The core of the application of assertion training in the transition from Stage 3 to Stage 4 is the analysis of the person's belief system, and in assisting them to rethink their beliefs toward different conclusions about the role of conflict in their lives, and the role of seeking approval. This is the cognitive restructuring approach to assertion training, not the strictly behavioral approach.

4 The basic assertion training procedure of identifying one's own rights in a situation is a challenge for a Stage 3 person whose actions are directed toward avoiding conflict and seeking approval. The notion that an individual has rights beyond the approval of others is a new concept for a Stage 3 person. This is a Stage 4 concept in itself, as there is an explicit treatment of rights as vested in law and society. Rights are presented as based beyond the approval system of one's immediate circle.

For young people making the transition from adolescence to young adulthood, from high school to college, we have found the introduction of a belief system which tells them they may choose goals other people would not want them to have to be captivating emotionally and intellectually. Assertion training oriented this way really is able to capitalize on what is both a very powerful issue of emotional development and a key source of conflict with parents and other significant adults. The subject of rights is presented as having a context larger than one's immediate personal transactions.

This Stage 3-4 transition presents a new kind of risk taking. The Sierra context with an emphasis on a psychological sense of community provides a level of security for the participants in which to take risks. Our experience with a very conventional population is that there is a lot of risk and psychological stress associated with the Stage 3-4 transition.

The conflict resolution component of assertion training, in view of the degree of risk and psychological stress associated with the Stage 3-4 transition, helps make it such an impetus to structural change. Stage 4 differs from Stage 3 in the conflict resolution model. At Stage 4, assertion training provides individuals with the skills to act assertively and achieve their legitimate ends without interfering with the rights of others in the process. This new skill facilitates learning to act successfully in relation to society. It requires a higher level of empathy and social role taking because the individual must be aware of himself or herself, be aware of the point of view of the other in the conflict, and have the capacity to see how each relates to the other in the conflict. The principles of fairness and justice provide the basis for resolving the conflict. How these principles are employed, of course, determines the stage level at which the resolution will occur. A successful resolution taking each person's perceptions as well as their interaction into account reflects at least a Stage 4 accomplishment. The individual fixed at Stage 3 becomes too conflicted about the potential loss of their status as a "nice person" to fully engage themselves in an open process of conflict resolution. Assertion training provides the structure in which Stage 3 issues can be shifted into Stage 4 conceptualizations, a process which can and does, in the Piagetian framework, render assimilation ineffective, place an emphasis on accommodation, and lead to a higher level equilibration.

Assertion training is a vehicle for helping students rethink their sex role choices. Assertion training for women provides a useful perspective on why it is employed as part of a sex role curriculum. Traditional sex-role stereotyping in our society tends to support a belief system that many assertive actions are non sex-role appropriate for women. R. M. Whiteley (1977) identified the following assertive behaviors as being excluded and/or minimized in the traditional female sex role:

Indent

1. Initiating behaviors;
2. problem solving, particularly analysis, evaluation;
3. verbally defending and supporting one's point of view;
4. directness;
5. positive self-presentation;
6. expressing of negative feelings or giving negative feedback;
7. setting limits on the behavior of others in relation to self;
8. striving for personal power and achievement. (p. 3)

Assertion training is a vehicle for challenging the socialization messages and sex-role stereotyped thinking which maintain the non-assertive behaviors and restrict the actions of both sexes. R. M. Whiteley (1977) and her colleagues use cognitive restructuring procedures as a model for behavior change for women, basing their interventions on the work of Ellis (Ellis, 1962, 1973), Meichenbaum (Meichenbaum, 1977), and Beck (Beck, 1976). Cognitions which maintain nonassertive or aggressive behaviors are conceptualized by R. M. Whiteley (1977) as "irrational thinking styles, irrational belief systems, and instances of deficiences in problem-solving abilities and coping skills"(p. 4). Following cognitive restructuring, behavioral rehearsal is employed to enable the student to try out his or her newly conceived behaviors.

Assertion training in this sense--recognizing one's own and other's rights--is a task which can be accomplished by someone at Stage 3. Erickson's (1973) identification of the typical American woman as at Stage 3 in our society, may account for why women in large numbers have been able to benefit from assertion training. They can conceptualize the issues surrounding personal rights, and opt for new values. R. M. Whiteley (1976) presented this part of the desired outcome of the assertion training process as follows:

> In many areas there is a double standard of behavior for men and women. When these areas involve the violation of one's personal human rights, assertion training can help a person sort out the rights involved; determine whether the behavior is, in fact, unassertive, assertive, or aggressive; and choose responses to communicate one's thoughts, feelings, or needs in a direct, honest, and appropriate manner. Thus, the cultural stereotypes that restrict personal expression are rejected in favor of *human* values. Men and women are not encouraged to give up the masculine or feminine qualities they value, but rather to have greater access to the full range of healthy thoughts, feelings and behaviors available to all human beings. (p. 234)

Learning to recognize new human values and acquiring the skills to implement them is a valued part of the Sierra curriculum for the freshmen. Their enthusiasm for assertion training reflects the positive personal growth and competencies which they achieve. Further, the aspects of assertion training identified above are highly compatible with the basically Stage 3 conventional orientation which predominates with our group of students.

Section VI--Reflections on the First Two Years of the Project

Reflecting back over the first two years of the project, there is much that we would have done differently if we had it to do over again.

A. Staff Structure

The initial staff structure did not lend itself to effective problem-solving. There were several reasons for this. First, the staff was composed of persons of very different age and experience backgrounds. Second, these differences, and the need to meld them into effective problem-solving teams, was not an explicit agenda item. Instead, the different groups--sophomores, graduate students, support staff, and professional staff--tended to work in their own groups rather than with each other. Third, some of the personalities involved were not particularly compatible.

A staff structure should have been specified at the start, subject to modification as we went along rather than trying to start to work by plunging right into the immediate tasks at hand.

B. Preliminary Preparation

At least a year of preliminary preparation is necessary before commencing work with the first group of students. Some of the reasons are obvious. It is necessary to obtain cooperation between the academic units doing the teaching and offering the course credit. Academic courses need to be proposed, and to work their way through the approval process. Cooperation of the Housing staff needs to be obtained to insure the proper assignment of students and student staff to the selected resident hall, and to work out a procedure for fully informing potential student participants as to what the project is really about. If there is an evaluation component to the project, the approval of a Human Subjects Review Committee must be obtained.

Some of the reasons for spending a year in planning are not so obvious. If we had known in the first year of the project that our group was so homogeneously clustered at Stage 3 of the Kohlberg Scale, we would have structured our curriculum accordingly. Our research design precluded knowing anything about the population until after they had left. The second year of the project went much better. We had a greater theoretical understanding of what our students were developmentally able to respond to, and could structure the curriculum accordingly. A small sample of freshmen tested in the preparation year would have provided the information we needed for curriculum planning without affecting the research design.

C. Student Staff

The role of the sophomore staff could have been greatly enhanced if it had been possible to provide them with a year of academic study of the concepts on which the project is based prior to the start of their work with freshmen. It is too great a task for them to try to acquire fundamentally new knowledge while trying at the same time to perform in the role of a staff person. And they would be much more effective catalyst for change in the freshmen if their one year of added maturity were supplemented by a greater sophistication in theoretical understanding of the concepts underlying the project.

For the next year of the project, 1978-79, we are giving active consideration to switching to a student staff of juniors and seniors who are already well introduced to the theory, and who can be at a higher skill level in helping with teaching empathy, assertion, cognitive conflict skills, etc. One of the liabilities of such a move could be a loss of the special insights about freshmen we have gained from the sophomore staff.

It may well be that we would induce more growth in freshmen if they were living with sophomores, juniors, and seniors. Natural developmental change in the upper classmen and women would assure modeling of thinking at higher stages of development. The project goals as initially specified preclude this change at this point in the project, since our focus is on freshmen. We recommend such an undertaking by future researchers.

The time demands on the Resident Assistant were too heavy. The housing complex which employs the RA has expectations for what they will do with their time. The project staff deeply valued their contribution in almost every area of the project. Therefore, the invitations to attend research or curriculum meetings far exceeded the realistic time the RA could commit. They are, after all, full-time students as well.

For 1977-78, we split the job previously held by the RA into two positions, a switch which is working out very well. Both students in the role this year are juniors, each having an additional year of developmental coursework, experience, and maturity.

D. Conflicting Purposes

There has developed a natural conflict between some procedures specified by the research design and the content of the instructional program. The reverse is true as well. For example, in order to increase their educational impact, the student journals were presented as a confidential communication between the journal writer and his or her journal reader. The reason for this is that we considered the journal such an important tool for promoting growth that we did not want students "holding back" what they were willing to write about because they knew that strangers would be reading their most personal reflections. At the end of the year we have asked for a few selected journals, and have received them. All information is not lost, as the journal reader and writers both turn in comments upon, and evaluations of, the journals--but that is not the same as content analysis, or reviewing the principles by which students resolve conflicts in response to our structured journal questions.

Another conflict is between our educational goal of wanting to get students involved in shaping the details of the curriculum and the competing goal of wanting to offer a curriculum which will stimulate moral reasoning, ego development, and reflective sex role choices. In this connection, by Spring Quarter, groups of freshmen have been willing to work with the sophomore and professional staff in putting on classes. The results have been uneven. The range has been from a silly "talent-no talent night" to a very insightful structured interview developed by the students with the Nobel Prize winner, Gunnar Myrdal, and his wife, Alva Myrdal, a former Swedish Ambassador to India, Ceylon, Burma, and Nepal, Disarmament Minister, and member of the Swedish Parliament. The latter class proved to be a powerful stimulus for a consideration of generational issues. The students were able to relate this quite insightfully to their own development. Most of our students have had their educational experiences thoroughly structured for them in the past. It is quite a leap for them to assume part of the responsibility for what is presented in class. Learning how to help students produce more Myrdal-quality classes with as few "no talent" nights as possible, while still providing them freedom to learn, is a key task for the future.

The thrust of the staff effort in curriculum development is toward the realization of Goal 1, the design and implementation of a replicable curriculum aimed at accomplishing specific developmental purposes. The curriculum as actually delivered in any one week is a product of intensive discussions between the sophomore staff, and the professional and graduate student staffs. Freshmen enter this equation in the spring quarter. Blending all the participants in the curriculum development task into effective work groups remains a challenge.

E. The Testing Program

In order to assess the theoretical constructs which underlie the project with an acceptable level of validity, we have assembled a formidable test battery. A strength of our research design is that almost all the tests we utilize have satisfactory construct validity. The two measures of moral reasoning, and the separate measures of ego development, internal-external locus of control, and sex role choices have been extensively researched in the past.

The Loevinger Sentence Completion measure for assessing ego development stage proved to be particularly unpopular when incorporated within the test battery. In order to get serious answers from students, starting with the Class of 1980, it is administered in a separate testing. The Kohlberg interview, by its very nature, already had been administered separately. For the Class of 1979, we had ten different interveiwers for the Kohlberg. It required a considerable investment of time to see that each interviewer conducted his or her interviews in a consistent manner.

For the Class of 1980, we made several changes in our test administration procedures which we believe have improved the validity of our data.

As was already reported, we give the Loevinger separately from the rest of the battery. We now employ one Kohlberg interviewer who is selected both for ability and for having adequate time available. For the Class of 1979, testing students in Sierra and Lago was done in their respective halls. Testing day at the start of Fall Quarter 1975 turned out to be unseasonably hot with the wind blowing from the desert rather than the ocean. Cookies and punch were not enough to assuage a restive group of test-takers, and the heat added to the fatigue already presented by our ambitious battery of instruments. Starting with the Class of 1980, we have set it up so that both Sierra and Lago students are tested together in an environmentally controlled site away from their respective residence halls.

Several problems remain. Kohlberg and his associates continue to modify their scoring system. For the Class of 1981, the scoring rules will be somewhat different. For the reasons reviewed in Section V of this chapter, conducting the research in a natural setting provides additional problems. Only 38 out of 44 students in Sierra Hall from the Class of 1981 began Fall Quarter both in the class and having completed the test battery.

Collecting pre-test data is relatively easy. By the time the post-test administration is scheduled in Spring Quarter, however, students are involved in planning for the summer, completing their last mid-terms, and starting to worry about, if not prepare for, their final examinations. Spending half a day on Sierra Project testing is not high on their list of activities.

For the longitudinal design, we have encountered a variation of the problem identified last year (O'Mara, 1977) by one of the officers of our student government: no matter how hard she tried to locate a sample of 297 students, approximately 11 percent were classified as "unreachable." Their families did not know where they were, their mail was returned "addressee unknown" or "moved--no forwarding address," their telephones did not answer even at very late or very early hours or had been disconnected, or they had dropped out of school without notifying anyone. This is the context in which we try to locate our longitudinal sample. The college-age group population is a very transient one, especially in an attractive beach community.

In order to improve participation in the longitudinal and collateral control samples, we began paying participants $5 for taking the battery of tests in the Spring, starting with the Class of 1980. This resulted in a much higher level of participation than we experienced with the [redacted] Control Group for the Class of 1979 when we tried to follow them up (five out of an initial group of 22 when tested at the end of their freshman year).

F. Incidents as Educational Experiences

Incidents have arisen during the first two years of the project which have had the potential of promoting the consideration of alternative perspectives, and providing complex conflict resolution problems.

These critical incidents in the past have taken the form of very public man-woman relationship troubles, sexist and racist slights or insults, authority conflicts (such as the previously discussed "Chicken Little Incident"), or the normative conflicts which develop in the form of roommate hassles or disputes over noise level at exam time.

Most of these incidents develop quickly. For their educational potential to be fully realized for raising the level of moral reasoning, the staff needs to be alert to how they can be utilized. The previously discussed incident with the athletes is an example. The transactions were all between the Resident Assistant, the athletes, and the Mesa Court complex housing staff. The matter had been resolved--in a disadvantageous way for the project--by the time the staff was able to discuss it. The opening of school in the Fall is particularly hectic for all concerned, so this matter was lost in a host of pressing details.

The broader problem is how to sensitize all of the project staff to recognize potential issues before they have lost their impact. We have not done this very well in the past. One reason is that we have been too preoccupied with the development of regular curricular offerings, implementing the research design, and administering the project. Another reason is that we never have highlighted the identification of issues with developmental potential. A third reason is that the sophomore staff has not had enough developmental theory at the time the project starts each year to fully appreciate the characteristics we are seeking in an educational issue.

C. Progress on the Project Goals

As this is written, we are well into the third year of the Sierra Project. The Sierra Project has turned out to be much more difficult to execute than we had first imagined. In terms of our four goals, the following is an assessment of work in progress:

GOAL 1--TO DESIGN, IMPLEMENT, AND EVALUATE A REPLICABLE CURRICULUM WHICH WILL:

A. FACILITATE THE TRANSITION FROM HIGH SCHOOL TO COLLEGE

In social terms, freshmen students are much more involved in their former high school culture, high school romantic interests, and families up through the Christmas holidays. They tend to leave the campus for home in large numbers over each weekend in the Fall Quarter, a practice much less prevalent once Winter Quarter starts. The campus has become a part of "home."

In academic terms, Sierra freshmen report that they have benefitted greatly from the Survival Skills Module. They say it has helped them get on with the business of acquiring an education with new learning skills and lessened anxiety. We are going to examine their academic records to see if it had an effect on grades.

The SIMSOC module was moved in the second year of the project from Spring Quarter to Fall Quarter. The weekend spent doing SIMSOC at a mountain retreat away from the campus, the experience of getting to know everyone else, and the intensity of involvement in SIMSOC itself all combined to bring Sierra Hall residents much closer together.

The Environmental Assessment Inventory (EAI) revealed that freshmen come to UC Irvine with high expectations for a psychological sense of community. Whatever the basis for these expectations, the formal organization of student-faculty interaction, life in the residence halls, the competition for grades, and the size of the campus all combine to produce a considerable violation of expectations. The EAI reveals that Sierra Hall is rated as violating expectations for community far less than Lago Hall, or the campus as a whole experienced by our random collateral control groups.

B. STIMULATE PYSCHOLOGICAL DEVELOPMENT FROM LATE ADOLESCENCE TO EARLY ADULTHOOD, INCLUDING MORAL REASONING, EGO DEVELOPMENT, AND ROLE CHOICES.

This is written as we are two and one-half years into what is projected to be a seven year project, and we are just beginning to analyze the data from the Survey Design. That Sierra students changed more on the Principled Reasoning Scale of the Rest Defining Issues Test is encouraging. Change so far on the Kohlberg and Loevinger do not reveal significant differences between Sierra residents and either Lago residents or members of the various control groups. This finding regarding the Kohlberg is based only on the class of 1979 freshmen year results for Sierra and Lago. The reason is that we did not have the staff or financial resources to administer, transcribe, code, and score the Kohlberg on other than Sierra for the classes of 1980 and 1981. For the class of 1982, we intend to administer the Kohlberg to both Sierra, Lago, and the Collateral Control. The difference in moral reasoning change for Sierra over Lago and the various controls has held up over two years using the Rest Principled Reasoning Scale. Whether delayed growth will occur on the other measures is something we are in the process of investigating.

C. FOSTER A CONSIDERATION OF FUTURE LIFE-STYLE CHOICES AND CAREER DECISIONS

Neither the class of 1979 nor the class of 1980 were much interested in these topics as freshmen. When they were sophomores, a survey done by Burris (1977) of members of the Class of 1980 revealed a keen interest in these issues, as well as in developing a philosophy of life. Interestingly enough, the class of 1981 (our current freshmen) seem quite interested in life-style and career issues. Cohort differences on these aspects of life appear quite real.

D. CHALLENGE THE LEARNER TO APPLY HIS/HER EDUCATIONAL EXPERIENCES TO PROBLEMS IN THE BROADER COMMUNITY THROUGH FIELD STUDY

The response to the opportunity to work in the broader community through field study in terms of numbers of participants has been as follows:

Class of 1979, Spring 1976	14 students
Class of 1980, Winter 1977	21 student
Class of 1980, Spring 1977	16 students
Class of 1981, Winter 1978	19 students.

Field study was available only in Spring Quarter of the first year of the project (Spring 1976), and subsequently has been available both Winter Quarter and Spring Quarter.

Given the heavy, fixed academic pressures on freshmen, particularly pre-meds and science majors, this level of participation reflects a strong interest.

UCI recently received a three-year grant from the University Year in Action (UYA) Program of the Federal ACTION agency. ACTION includes such groups as the Peace Corps and VISTA. In UYA, students work 40 hours a week for one year in a poverty setting, receiving academic credit and a food and lodging allowance. Former Sierra students have signed up in disproportionate numbers to the rest of the campus, and even more are planning to do so. One important caution, however, is that there is an overlap in staffing between the Sierra Project and the UYA Project (three staff are involved in both). Students may want to continue the personal association and not be independently interested in community service.

GOAL 2--TO STUDY THE DEVELOPMENTAL STATUS OF COLLEGE FRESHMEN IN THE CONTEXT OF AN INTENSIVE YEAR-LONG RESIDENTIAL PROGRAM

This goal should be relabeled, "To study the developmental status of conventional college freshmen..." We have observed some interesting relationships between the different measures employed in the study. Our initial analyses are focusing on the relationship of internal-external locus of control to moral reasoning and ego development in the sample as a whole, in Sierra, and on both sex differences and race differences. We are also investigating the interrelationship of the developmental status of college freshmen on dimensions of ego development and moral development.

GOAL 3--TO INVESTIGATE WHAT SPECIFIC EXPERIENCES HAVE THE GREATEST IMPACT ON PROMOTING INDIVIDUAL GROWTH IN THE TRANSITION FROM LATE ADOLESCENCE TO EARLY ADULTHOOD

This goal has received the least attention until now because of the difficulty and time involved in executing what we have to date. With two collaborators from the University of Minnesota (James Rest and Joe Voelker), Karen Nelson and John Whiteley are designing a structured interview format to investigate this topic. Our intent is to initiate the interviews in the spring of 1978, working first with the freshmen in Sierra and Lago from the class of 1981. We intend to sample sophomores, juniors, and seniors as well as following the freshmen from the classes of 1981 and 1982 longitudinally to see if they view experiences from the freshman year differently in retrospect.

GOAL 4--TO CONDUCT A FOUR-YEAR LONGITUDINAL STUDY OF THE DEVELOP- OF MORAL REASONING IN COLLEGE STUDENTS

As this is written, it is too early in the study to comment on the results as they pertain to Goal 4. Our first group of students, the class of 1979, are now juniors. They are the only group on which we have the results from two years of testing.

The high rate of attrition common to a major public, research oriented, university will be a factor in our study. The Sierra and Lago groups in their senior years are expected to be depleted by at least one-half, not counting those who remain in school but decline to participate in the retesting, or who we cannot locate. Our adoption of the collateral control group rationale from life span developmental psychology represents our approach to a solution to the attrition problem. The number of students remaining from Sierra after four years is expected to be smaller than we would like.

G. CONCLUSION

In reviewing this chapter, two reflections stand out in my mind. First, the project has been much more of a challenge simply to execute than anticipated at the start. A longitudinal study of this complexity has demanded high level of energy, commitment, and perseverance.

The final reflection relates to the purposes of the project. The first pages of the chapter chronicle what we are about in terms of the scope of the project, and the research design associated with it. The balance of the chapter is devoted to explaining what we are doing in much greater detail, and in articulating the theoretical constructs on which the project is based. Why are we doing the Sierra project in a university setting has not been articulated in terms of the broader purposes of education in our society. It is our conviction that a key purpose of education is the development of character. John Dewey's words of over three-quarters of a century ago capture the spirit of what we have been about. As Dewey (1895) stated it:

> Briefly, only psychology and ethics can take education out of its purely empirical and rule-of-thumb stage. Just as a knowledge of mathematics and mechanics has wrought marvelous improvements in all the arts of construction; ....so a knowledge of the structure and functions of the human being can alone elevate the school from the position of a mere workshop, a more or less combrous, uncertain, and even baneful institution, to that of a vital, certain, and effective instrument in the greatest of all constructions - the building of a free and powerful character. (p. 5.)

REFERENCES

Atkins, V. *High School students who teach: An approach to personal learning*. Unpublished doctoral dissertation, Harvard University, 1972.

Baier, K. *The moral point of view*. New York: Random House, 1965.

Baltes, P. B. Longitudinal and cross sectional sequences in the study of age and generation effects. *Human Development*, 1968, *11* (3), 145-171.

Beck, A. Cognitive therapy: Nature and relation to behavior therapy. *Behavior Therapy*, 1970, 1, 184-200.

Beck, A. *Cognitive Therapy and the Emotional Disorders*. New York: International Universities Press, 1976.

Bem, S. The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, 1974, *42*, 155-162

Bem, S. Sex-role adaptability: One consequence of psychological androgyny. *Journal of Personality and Social Psychology*, 1975, *31*, 634-643.

Boyd. D. *From conventional to principled morality*. Unpublished manuscript, Harvard University, 1973.

Burris, *Relevant issues during the sophomore year in college*. Unpublished manuscript, University of California, Irvine, 1977.

Buss, Allan R. An extension of developmental models that separate ontogenetic changes and cohort differences; *Psychological Bulletin*, 1973, *80* (6), 466-479.

Carkhuff, R. R. *Helping and human relations*. (Vol. I and Vol. II). New York: Holt, Rinehart, & Winston, 1969.

Cottrell, L. S., Jr. Covert behavior in interpersonal interaction. *Proceedings of the American Philosophical Society*, 1971, *115*, 462-469.

Coulson, W. R. *A sense of community*. Columbus, Ohio: C. E. Merrill Publishing Co., 1973.

Dewey, J. What psychology can do for the teacher. In McLellan, J., & Dewey, J. *The psychology of number*. New York: Appleton & Co., 1895. pp. 1-22.

Dewey, J. The need for a philosophy of education. In R. Archambault (Ed.), *John Dewey on education: Selected writings*. New York: Random House, 1964, (originally published in 1934).

Dowell, R. C. *Adolescents as peer counselors: A program for psychological growth*. Unpublished doctoral dissertation, Harvard University, 1971.

Ellis, A. *Reason and emotion in psychotherapy*. New York: Lyle Stuart, 1962.

Ellis, A. Rational-emotive therapy. In R. Corsini (Ed.), *Current psychotherapies*. Itasca, Illinois: Peacock, 1973.

Erickson, V. *Psychological growth for women: A cognitive developmental curriculum intervention*. Unpublished doctoral dissertation, University of Minnesota, 1973.

Felton, L. *Teaching counseling to adolescents and adults*. Unpublished doctoral dissertation, Boston University, 1974.

Galassi, J. P., Delo, J. S., Galassi, M. D., and Bastien, S. The college self-expression scale: A measure of assertiveness. *Behavior Therapy*, 1974, *5*, 165-171.

Galassi, J. P., and Galassi, M. D. Validity of a measure of assertiveness. *Journal of Counseling Psychology*, 1974, *21*, 248-250.

Gamson, W. *SIMSOC Simulated Society* (2nd edition): Participants Manual. New York: Free Press, 1972. (a)

Gamson, W. *SIMSOC Simulated Society* (2nd Edition): Instructor's Manual. New York: Free Press, 1972. (b)

Goffman, E. *The presentation of self in everyday life*. New York: Doubleday Anchor, 1959.

Goodman, G. *Companionship Therapy: Studies in structured intimacy*. San Francisco: Jossey-Bass, 1972.

Greenspan, B. *Facilitating psychological growth in adolescents through child development curricula*. Unpublished doctoral dissertation, Harvard University, 1974.

Grief, E. B., and Hogan, R. The theory and measurement of empathy. *Journal of Counseling Psychology*, 1973, *20*, 280-284.

Griffin, A. *Teaching counselor education to black teenagers*. Unpublished doctoral dissertation, Harvard University, 1972.

Grimes, P. *Teaching moral reasoning to eleven year olds and their mothers: A means of promoting moral development*. Unpublished doctoral dissertation, Boston University, 1974.

Hillery, G. Villages, cities and total institutions. *American Sociological Review*, 1964, *28*, 779-791.

Hogan, R. Development of an empathy scale. *Journal of Consulting and Clinical Psychology*, 1969, *33*, 307-316.

Hogan, R. Moral conduct and moral character: A psychological perspective. *Psychological Bulletin*, 1973, *79*, 217-232.

Hogan, R., and Dickstein, E. A measure of moral values. Journal of Consulting and Clinical Psychology, 1972, 39 (2), 210-214.

Huston-Stein, A., and Baltes, P. Theory and method in life-span developmental psychology: Implications for child development. In Reese, H. W. (Ed.), Advances in child development and behavior. Vol. II. New York: Academic Press, 1976.

Kanter, R. M. Commitment and Community: Communes and Utopias in Sociological perspective. Cambridge, Massachusetts: Harvard University Press, 1972.

Katz, T. The arts as a vehicle for the exploration of personal concerns. Unpublished doctoral dissertation, Harvard University, 1972.

Kegan, R. Ego and truth: Personality and the Piaget paradigm. Unpublished doctoral dissertation, Harvard University, 1977.

Kelly, G. A. The psychology of personal constructs. Vol. 1. A theory of personal constructs. New York: Norton, 1955.

Kohlberg, L. The development of modes of moral thinking and choice in the years ten to sixteen. Unpublished doctoral dissertation, University of Chicago, 1958.

Kohlberg, L. Development of moral character and ideology. In M. L. Hoffman (Ed.), Review of child development research. Vol. I. New York: Russell Sage Foundation, 1964.

Kohlberg, L. Stage and sequence: The cognitive-developmental approach to socialization. In D. Goslin (Ed.), Handbook of socialization: Theory and research. New York: Rand-McNally, 1969.

Kohlberg, L. Collected papers on moral development and moral education. Cambridge, Massachusetts: Harvard University Laboratory of Human Development, 1973. (a)

Kohlberg, L. Standard scoring manual. Unpublished manuscript, Harvard University, 1973. (b)

Kohlberg, L. Latest version of the theory of the just community school. Unpublished manuscript, Harvard University, 1975.

Kohlberg, L., Kauffman, K., Scharf, P., and Hickey, J. The just community approach to corrections: A theory. Journal of Moral Education, 1975, 4 (3), 243-260.

Kohlberg, L., Wasserman, E., and Richardson, N. The just community school: The theory and the Cambridge cluster school experiment. In Kohlberg, L. (Ed.), Collected papers on moral development and moral education II. Cambridge, Massachusetts: Harvard Graduate School of Education, Center for Moral Development, 1975.

Lange, A., and Jakubowski, P. *Responsible assertive behavior: Cognitive-behavioral procedures for trainers*. Champaign-Urbana, Illinois: Research Press, 1976.

Langer, J. Disequilibrium as a source of development. In P. Mussen, et al (Eds.), *Trends and issues in developmental psychology*. New York: Holt Rinehart, and Winston, 1969.

Langer, J. *Theories of development*. New York: Holt, Rinehart, and Winston, 1969. (b)

Loevinger, J. The meaning and measurement of ego development. *American Psychologist*, 1966, *21*, 195-206.

Loevinger, J. *Ego development, conceptions and theories*. San Francisco: Jossey-Bass, 1976.

Loevinger, J., and Wessler, R. *Measuring ego development*. San Francisco: Jossey-Bass, 1970.

Lorish, R. *Teaching counseling to disadvantaged young adults*. Unpublished doctoral dissertation, Boston University, 1974.

Mackie, P. *Teaching counseling skills to low achieving high school students*. Unpublished doctoral dissertation, Boston University, 1974.

Mager, G. *Improvisation drama as a way to learn about oneself*. Unpublished doctoral dissertation, Harvard University, 1972.

McDougall, W. *An introduction to social psychology*. London: Methuen, 1908.

Mead, G. H. *Mind, self, and society*. Chicago: University of Chicago Press, 1934.

Meichenbaum, D. *Cognitive-behavior modification: An integrative approach*. New York: Plenum Press, 1977.

Mosher, R. L., and Sprinthall, N. A. Psychological education in the secondary schools: A program to promote individual and human development. *American Psychologist*, 1970, *25* (10), 911-924.

Mosher, R. L. and Sprinthall, N. A. Psychological education: A means to promote personal development during adolescence. *The Counseling Psychologist*, 1971, *2* (4), 3-82.

Nisbet, R. *The sociological tradition*. London: Heinemann, 1966.

O'Mara, M. *The academic inventory: Undergraduate student perceptions of the educational environment at the University of California, Irvine*. Unpublished manuscript, University of California, Irvine, 1977.

Paolitto, D. *Role-taking opportunities for early adolescents: A program in moral education*. Unpublished doctoral dissertation, Boston University, 1975.

Piaget, J. *The child's conception of the world*. London: Routledge, 1929.

Piaget, J. The general problems of the psychobiological development of the child. In J. Tanner and B. Inhelder (Eds.), *Discussions on child development: Proceedings of World Health Organization study group on the psychobiological development of the child*. Vol. IV. New York: International Universities Press, 1960.

Piaget, J. Cognitive development in children. In R. Ripple and V. Rockcastle (Eds.), *Piaget rediscovered: A report on cognitive studies in curriculum development*. Ithaca, New York: Cornell University School of Education, 1964.

Insert A →

Piaget, J. *Structuralism*. New York: Basic Books, 1970. (b)

Rest, J. The hierarchical nature of moral judgment: A study of patterns of comprehension and preferences of moral stages. *Journal of Personality*, 1973, *41* (1), 86-109.

Rest, J. Developmental psychology as a guide to value education: A review of "Kohlbergian" programs. *Review of educational research*, 1974, *44* (2), 241-259. (a)

Rest, J. *Major concepts in moral judgment development*. Unpublished manuscript, University of Minnesota, 1974. (b)

Rest, J. Comments on the deliberate psychological education programs and the Toronto Moral Education Programs in secondary education. *The Counseling Psychologist*. 1977, *6* (4), 32-34.

Rogers, C. *Carl Rogers on encounter groups*. New York: Harper and Row, 1970.

Rotter, J. Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, 1966, *80*, No. 1. (Whole No. 609).

Rustad, K. *Teaching counseling skills to adolescents: A cognitive-developmental approach to psychological education*. Unpublished doctoral dissertation, University of Minnesota, 1974.

Salter, A. *Conditioned reflex therapy*. New York: Capricorn, 1949.

Sarason, S. B. *The creation of settings and the future societies*. San Francisco: Jossey-Bass, 1972.

Sarason, S. B. *The psychological sense of community: Prospects for a community psychology*. San Francisco: Jossey-Bass, 1974.

Sarason, S. B., Zitnay, G., and Grossman, F. K. (Eds.). *The creation of a community setting*, 1. Syracuse, New York: Syracuse University, Division of Special Education and Rehabilitation, 1971.

Insert A { Piaget, J. Piaget's theory. In P. H. Mussen (Ed.), *Carmichael's manual of child psychology* (3rd Ed.). New York: Wiley, 1970. (a)

Sarbin, T. R., and Allen, V. L. Role theory. In G. Lindzey, and E. Aronson (Eds.), Handbook of social psychology. Reading, Massachusetts: Addison-Wesley Press, 1968.

Schaffer, P. A. Moral judgement: A cognitive-developmental project in psychological education. Unpublished doctoral dissertation, University of Minnesota, 1974.

Schaie, K. A reinterpretation of age-related changes in cognitive structure and functioning. In L. R. Goulet, and P. B. Baltes (Eds.), Life-span developmental psychology: Research and theory. New York: Academic Press, 1970.

Schaie, K. Methodological problems in descriptive developmental research on adulthood and aging. In J. R. Nesselroade, and H. W. Reese (Eds.), Life-span developmental psychology: Methodological issues. New York: Academic Press, 1973.

Schaie, K. W. and Baltes, P. B. On sequential strategies in developmental research. Human Development, 1975, 18, 384-390.

Scharf, P., and Hickey, J. The prison and the inmate's conception of legal justice: An experiment in democratic education. Criminal Justice and Behavior, 1976, 3 (2), 107-122.

Scherer, J. Contemporary community: Sociological illusion or reality? London: Tavistock Publications Limited, 1972.

Selman, R. The relation of role-taking ability to the development of moral judgment in children. Child Development, 1971, 42, 79-91.

Selman, R. L. A developmental approach to interpersonal and moral awareness in young children: Some educational implications of levels of social perspective-taking. In T. C. Hennessy (Ed.), Values and moral development. New York: Paulist Press, 1976. (a)

Selman, R. L. Social-cognitive understanding: A guide to educational and clinical practice. In T. Likona (Ed.), Moral development and behavior. New York: Holt, Rinehart, & Winston, 1976. (b)

Selman, R. L., and Byrne, D. A structural-developmental analysis of levels of role-taking in middle childhood. Child Development, 1974, 45, 803-806.

Selman, R. L., and Damon, W. The necessity (but insufficiency) of social perspective taking for conceptions of justice at three early levels. In D. J. DePalma, and J. M. Foley (Eds.), Moral development: Current theory and research. New York: Wiley, 1975.

Stanley, S. A curriculum to affect the moral atmosphere of the family and the moral development of adolescents. Unpublished doctoral dissertation, Boston University, 1975.

Stokols, D. Toward a psychological theory of alienation. Psychological Review. 1975, 82 (1), 26-44

Sullivan, P. J. A curriculum for stimulating moral reasoning and ego development in adolescents. Unpublished doctoral dissertation, Boston University, 1975.

Wasserman, E. Implementing Kohlberg's "Just community concept" in an alternative high school. Social Education, 1976, 40, 203-207.

Whiteley, J.M., ~~and~~ & Loxley, J. C. A curriculum for the development of character and community in college students. In V. L. Erickson, and J. M. Whitely (Eds.), Developmental counseling and teaching. Monterey: Brooks/Cole, 1978.

Whiteley, R.M. Assertion training. In M. Harway, H.S. Astin, J.M. Suhr, and J.M. Whiteley. Sex discrimination in guidance and counseling. Report No. 300-75-0207. National Center for Education Statistics, U.S. Department of Health, Education and Welfare, 1976, 233-239.

Whiteley, R.M. Cognitive restructuring of assertive behavior for women. Paper presented at the Convention of the American Psychological Association, 1977.

Whitla, D. Value added: Measuring the outcomes of undergraduate education. Cambridge,Massachusetts: Harvard University Office of Instructional Research and Evaluation, 1977.

Wolpe, J. Psychotherapy by reciprocal inhibition. Stanford: Stanford University Press, 1958.

Wolpe, J. The practice of behavior therapy. Oxford: Pergamon Press, 1969.

Wolpe, J. The investigation of assertive behavior: Transcripts from two cases. Journal of Behavior Therapy and Experimental Psychiatry, 1970, 1, 145-151.

Wolpe, J., ~~and~~ & Lazarus, A.A. Behavior therapy techniques. Oxford: Pergamon Press, 1966.

Wolpe, J., Salter, A., ~~and~~ & Reyna, L.J. The conditioning therapies: The challenge in psychotherapy. New York: Holt, Rinehart, and Winston, 1966.

Wright, D. The Psychology of moral behavior. Baltimore: Penguin, 1971.

Footnote 1

[1] Professional staff on the project have included: Project Director and Principal Investigator Dr. John M. Whiteley, Dean of Students and Associate Professor of Social Ecology.

Administrative Coordinator--Barbara D. Bertin, Assistant Dean of Students.

Project Evaluator--Dr. Karen Nelson, formerly Lecturer in Social Ecology at UCI and now Assistant Professor of Psychology at Austin College in Sherman, Texas.

Curriculum Coordinator and Principal Class Instructor--Dr. Janet Loxley, Counseling Psychologist.

Housing Resource Person--James Craig, Associate Dean of Students, Coordinator of Resident Programs.

Community Service and Journal Coordinator--Martha Morgan.

Data Analyst--Holly Magana.

Footnote 1 (Continued)

Student staff on the project have included:

a) Seventeen sophomore student staff in Sierra Hall (for 1975-76, 1976-77, and 1977-78) including:

Greg Bolles, Robert Burbank, Maureen Burris, Jeanette Caldiera, Jocelyn Campos, James Fiorino, James Harrison, James S. Jennings, Kim Dreiling, Jose Leal, Chris Leatherwood, Susan Lindsay, Grizel Norte, Chuan Ren, Valerie Samuel, Mary Anne Skorpanich, Norma Yokota.

b) Four resident assistants (usually juniors and seniors) Mundo Norte, James Harrison, Kevin Clover, Maureen Burris.

c) The following graduate students have been involved at different times in various aspects of the project: Pam Burton, Carole Findlay-Ducoff, Holly Magana, Dave Marrero, Martha Morgan, Molly Slaten, and Edward Weeks.

d) One student, Jeanette Eberhardy, is now a doctoral candidate at the University of Minnesota. As a UCI undergraduate, she was a Resident Assistant of Sierra. As an MA candidate, she was involved in both curriculum development and evaluation.

TABLE 9

ATTRITION FOR THE CLASS OF 1979 FROM PARTICIPATION IN THE TESTING

POPULATION	FALL TESTING 1975	SPRING TESTING 1976	SPRING TESTING 1977
Sierra	46	42	34
Lago	42	36	12
Random Control	23	14	5

TABLE 15

ENROLLMENT AND ATTRITION VS. TIME (CUMULATIVE)

Total = 340

	Dropout		Graduated		Remaining	
	#	%	#	%	#	%
1st Year (1970-71)	66	19%	-	-	274	81%
2nd Year (1971-72)	130	38%	3	1%	207	61%
3rd Year (1972-73)	153	45%	12	4%	175	51%
4th Year (1973-74)	167	49%	151	44%	22	7%
5th Year (1974-75)	172	51%	163	48%	5	1%

Source: Adapted from Table 4, page 19. Graduation and Attrition at the University of California, Irvine: A Longitudinal Study of Freshmen Entering in Fall 1970. Report-OAA-76-R2, February 1976 by Susan Weeks.

TABLE 16

ATTRITION FROM THE SIERRA EXPERIMENTAL GROUP

POPULATION	FALL 75	SPRING 76	FALL 76	SPRING 77
Sierra '79	46	42		34
Sierra '80			44	44

APPENDIX A

Tables 1-8, 10-14, and 17-28

TABLE 1

SURVEY DESIGN

Class of 1979

Sierra Experimental Group

Instrument	Year of Administration					
	Freshman			Sophomore	Junior	Senior
	Fall Sep.	Winter Jan.	Spring May	Spring	Spring	Spring
Kohlberg	x		x			x
Rest	x		x	½	½	x
Loevinger	x		x	x	x	x
Bem	x		x	x	x	x
EAI	x	x	x	x	x	x
Rotter	x		x	x	x	x
B. O.	x		x	x	x	x
C.E.O.				x	x	x
Self Esteem				x	x	x
Alienation				x	x	x

TABLE 2

SURVEY DESIGN

Class of 1980

Sierra Experimental Group

Instrument	Year of Administration					
	Freshman			Sophomore	Junior	Senior
	Fall	Winter	Spring	Spring	Spring	Spring
	Sep.	Jan.	May			
Kohlberg	x		x			x
Rest	x		x	½	½	x
Loevinger	x		x	x	x	x
Bem	x		x	x	x	x
EAI	x	x	x	x	x	x
Rotter	x		x	x	x	x
B.Q.	x		x	x	x	x
C.E.Q.	x		x	x	x	x
Self Esteem	x		x	x	x	x
Alienation	x		x	x	x	x

TABLE 3

SURVEY DESIGN

Class of 1981

Sierra Experimental Group

Instrument	Year of Administration				
	Freshman			Sophomore	Junior
	Fall	Winter	Spring	Spring	Spring
	Sep.	Jan.	May		
Kohlberg	x		x		
Rest	x		x	½	½
Loevinger	x		x	x	x
Bem	x		x	x	x
EAI	x	x	x	x	x
Rotter	x		x	x	x
B.Q.	x		x	x	x
C.E.O.	x		x	x	x
Self Esteem	x		x	x	x
Alienation	x		x	x	x

TABLE 4

SURVEY DESIGN

Class of 1982

Sierra Experimental Group

Instrument	Year of Administration			
	Freshman			Sophomore
	Fall	Winter	Spring	Spring
	Sep.	Jan.	May	
Kohlberg	x		x	x
Rest	x		x	½
Loevinger	x		x	x
Bem	x		x	x
EAI	x	x	x	x
Rotter	x		x	x
B.O.	x		x	x
C.E.O.	x		x	x
Self Esteem	x		x	x
Alienation	x		x	x

TABLE 5

SURVEY DESIGN

Class of 1979

Lago Control Group

Instrument	Year of Administration					
	Freshman			Sophomore	Junior	Senior
	Fall	Winter	Spring	Spring	Spring	Spring
	Sep.	Jan.	May			
Kohlberg	x		x			x
Rest	x		x	½	½	x
Loevinger	x		x	x	x	x
BEM	x		x	x	x	x
EAI	x	x	x	x	x	x
Rotter	x		x	x	x	x
B.Q.	x		x	x	x	x
C.E.O.				x	x	x
Self Esteem				x	x	x
Alienation				x	x	x

TABLE 6

SURVEY DESIGN

Class of 1980

Lago Control Group

Instrument	Year of Administration					
	Freshman			Sophomore	Junior	Senior
	Fall	Winter	Spring	Spring	Spring	Spring
	Sep.	Jan.	May			
Kohlberg						
Rest	x		x	½	½	x
Loevinger						
BEM	x		x	x	x	x
EAI	x	x	x	x	x	x
Rotter	x		x	x	x	x
B.O.	x		x	x	x	x
C.E.O.	x		x	x	x	x
Self Esteem	x		x	x	x	x
Alienation	x		x	x	x	x

TABLE 7

SURVEY DESIGN

Class of 1981

Lago Control Group

Instrument	Year of Administration				
	Freshman			Sophomore	Junior
	Fall	Winter	Spring	Spring	Spring
	Sep.	Jan.	May		
Kohlberg					
Rest	x		x	½	½
Loevinger					
BEM	x		x	x	x
EAI	x	x	x	x	x
Rotter	x		x	x	x
B.Q.	x		x	x	x
C.E.Q.	x		x	x	x
Self Esteem	x		x	x	x
Alienation	x		x	x	x

TABLE 8

SURVEY DESIGN

Class of 1982

Lago Control Group

Instrument	Year of Administration			
	Freshman			Sophomore
	Fall	Winter	Spring	Spring
	Sep.	Jan.	May	
Kohlberg	x		x	x
Rest	x		x	x
Loevinger	x		x	x
Bem	x		x	x
EAI	x	x	x	x
Rotter	x		x	x
B.Q.	x		x	x
C.E.Q.	x		x	x
Self Esteem	x		x	x
Alienation	x		x	x

TABLE 10

SURVEY DESIGN

Class of 1979

Random Control from Mesa Court Freshmen

Instrument	Year of Administration					
	Freshman			Sophomore	Junior	Senior
	Fall	Winter	Spring	Spring	Spring	Spring
	Sep.	Jan.	May			
Kohlberg	x		x			x
Rest	x		x	½	½	x
Loevinger	x		x	x	x	x
Bem	x		x	x	x	x
EAI	x	x	x	x	x	x
Rotter	x		x	x	x	x
B.O.	x		x	x	x	x
C.E.O.	x		x	x	x	x
Self Esteem				x	x	x
Alienation				x	x	x

TABLE 11

SURVEY DESIGN

Class of 1979

Random Control Groups 1, 2, 3

Instrument	Year of Administration		
	Sophomore Gr. 1	Junior Gr. 2	Senior Gr. 3
	Spring	Spring	Spring
Kohlberg			x
Rest	½	½	x
Loevinger	x	x	x
Bem	x	x	x
EAI	x	x	x
Rotter	x	x	x
B.Q.	x	x	x
C.E.Q.	x	x	x
Self Esteem	x	x	x
Alienation	x	x	x

Note: Groups 1, 2, 3 are independently selected groups from the Class of 1979, with the principle of exclusion, i.e. any individual can be selected only once.

TABLE 12

SURVEY DESIGN

Class of 1980

Random Control Groups 1, 2, 3, 4

Instrument	Year of Administration					
	Freshman Gr. 1			Sophomore Gr. 2	Junior Gr. 3	Senior Gr. 4
	Fall	Winter	Spring	Spring	Spring	Spring
	Sep.	Jan.	May			
Kohlberg						x
Rest	x		x	½	½	x
Loevinger						
Bem	x		x	x	x	x
EAI	x	x	x	x	x	x
Rotter	x		x	x	x	x
B.Q.	x		x	x	x	x
C.E.Q.	x		x	x	x	x
Self Esteem	x		x	x	x	x
Alienation	x		x	x	x	x

Note: Group 1 was Mirkwood. Groups 2, 3, and 4 are independently selected groups from the Class of 1980, with the principle of exclusion, i.e. any individual can be selected only once.

TABLE 13

SURVEY DESIGN

Class of 1981

Random Control Groups 1, 2, 3

Instrument	Year of Administration				
	Freshman Gr. 1			Sophomore Gr. 2	Junior Gr. 3
	Fall	Winter	Spring	Spring	Spring
	Sep.	Jan.	May		
Kohlberg					
Rest	x		x	½	⅓
Loevinger	x		x	x	x
Bem	x		x	x	x
EAI	x	x	x	x	x
Rotter	x		x	x	x
B.Q.	x		x	x	x
C.E.Q.	x		x	x	x
Self Esteem	x		x	x	x
Alienation	x		x	x	x

Note: Groups 1, 2, and 3 are independently selected groups from the Class of 1981, with the principle of exclusion, i.e. an individual can be selected only once.

TABLE 14

SURVEY DESIGN

Class of 1982

Random Control Groups 1, 2

Instrument	Year of Administration			
	Freshman Gr. 1			Sophomore Gr. 2
	Fall	Winter	Spring	Spring
	Sep.	Jan.	May	
Kohlberg	x		x	x
Rest	x		x	½
Loevinger	x		x	x
Bem	x		x	x
EAI	x		x	x
Rotter	x		x	x
B.Q.	x		x	x
C.E.Q.	x		x	x
Self Esteem	x		x	x
Alienation	x		x	x

Note: Groups 1 and 2 are independently selected groups from the Class of 1982, with the principle of exclusion, i.e. an individual can be selected only once.

TABLE 17

POLITICAL ORIENTATION
Of Sierra Project Freshmen
Classes of 1979 and 1980

	1975 National Norms For Freshmen	Class of 1979 UCI Freshmen	Class of 1979 Sierra	Class of 1979 Lago	Class of 1979 Control Group
	N=71,897	N=772	N=43	N=38	N=22
Far Left	1.6%	2.8%	2.8%	2.9%	5.3%
Liberal	32.6	33.3	41.7	35.3	31.6
Middle Of The Road	51.1	46.6	27.7	38.3	26.3
Conservative	14.2	16.8	25.0	23.5	36.8
Far Right	.5	.4	2.8	0	0

	1976 National Norms For Freshmen	Class of 1980 UCI Freshmen	Class of 1980 Sierra	Class of 1980 Lago	Class of 1980 Control Group
	N=85,006	N=752	N=42	N=40	N=34
Far Left	1.7%	1.3%	2.7%	2.9%	3.7%
Liberal	29.2	31.3	40.5	47.1	41.3
Middle Of The Road	52.6	48.5	21.6	20.6	13.7
Conservative	15.8	17.8	35.2	26.5	41.3
Far Right	.7	1.1	0	2.9	0

Sources: Sierra Project Background Questionnaire and ACE Cooperative Institutional Research Program

Table 18

ESTIMATED PARENTAL INCOME for NATIONAL and UCI FRESHMAN IN CLASS OF 1979 and CLASS OF 1980

	Class of 1979		Class of 1980	
	national norms	UCI freshman	national norms	UCI freshman
	n=71,897	n=706	n=85,006	n=689
less than $3,000	1.8%	2.4%	1.9%	1.7%
$3,000 to $3,999	1.1	0.8	1.3	1.0
$4,000 to 5,999	2.4	1.0	2.5	3.0
$6,000 to 7,999	3.1	1.4	3.1	3.0
$8,000 to 9,999	4.3	3.4	4.2	3.8
$10,000 to 12,499	9.7	6.5	8.6	8.1
$12,500 to 14,999	11.3	8.4	10.3	9.7
$15,000 to 19,999	18.0	14.6	17.2	14.7
$20,000 to 24,999	15.5	20.7	15.6	16.0
$25,000 to 29,999	9.2	11.0	9.6	12.8
$30,000 to 34,999	7.2	10.9	7.7	7.5
$35,000 to 39,999	4.5	4.8	4.9	4.8
$40,000 to 49,999	4.2	6.4	4.8	4.9
$50,000 or more	7.6	7.6	8.3	8.9

Note: Parental Income Data was not collected from Sierra, Lago or Control Groups.

Source: ACE Cooperative Institutional Research Program.

Table 19

FATHER'S OCCUPATION

National and U.C. Irvine Norms
Classes of 1979 and 1980

	Class of 1979		Class of 1980	
	national norms n=71,897	UCI freshmen n=758	national norms n=85,006	UCI freshmen n=745
Artist (or performer)	0.8%	1.5%	1.0%	0.5%
Businessman	31.4	30.9	34.6	32.2
Clergy or relig. worker	0.7	0.4	0.7	0.4
Educator (college teacher)	3.9	4.5	1.3	0.8
Doctor (MD or DDS)	1.8	2.0	3.9	6.7
Educator (secondary)	2.1	2.5	3.2	3.4
Educator (elementary)	0.6	0.3	0.6	0.3
Engineer	10.4	20.4	10.6	17.3
Farmer or Forester	2.9	1.2	4.6	0.7
Health professional (non MD)	1.3	2.2	1.6	1.6
Lawyer	2.4	2.9	2.4	1.7
Military career	1.6	2.1	1.9	1.5
Research Scientist	1.1	1.7	1.2	1.3
Skilled worker	13.0	7.4	8.2	6.7
Semi-skilled worker	6.1	2.4	4.1	2.3
Laborer (unskilled)			2.3	3.2
Unemployed	1.8	2.4	1.5	1.5
Other occupation	18.0	17.8	16.3	17.9

Source : ACE Cooperative Institutional Research Program

TABLE 20

FATHER'S OCCUPATION
Of Sierra Project Freshmen
Classes of 1979 and 1980

	Class of 1979			Class of 1980		
	Sierra N=45	Lago N=39	Control N=23	Sierra N=43	Lago N=39	Control N=34
Executive	20.0%	12.8%	17.4%	23.3%	28.2%	33.3%
Manager	17.8	28.2	17.4	23.3	20.5	12.1
Administrative	17.8	33.3	30.4	14.0	17.9	24.2
Clerical	15.6	7.7	8.7	2.3	0	0
Skilled Worker	6.7	7.7	4.3	20.9	15.4	15.2
Semi-Skilled Worker	0	2.6	0	9.3	5.1	0
Unskilled Worker	11.1	2.6	4.3	2.3	0	3.0
Unemployed	1.0	0	0	0	2.6	3.0
Housewife	0	0	0	0	0	0
Deceased	8.9	5.1	17.4	4.7	2.6	0
Retired	0	0	0	0	7.7	9.2

Source: Sierra Project Background Questionnaire

TABLE 21

FATHER'S EDUCATION

National and U.C. Irvine Norms
Classes of 1979 and 1980

	National Norms 1975	Class of 1979 UCI Freshmen	National Norms 1976	Class of 1980 UCI Freshmen
	N=71,897	N=803	N=85,006	N=769
Grammar School or Less	3.7%	2.1%	4.2%	5.3%
Some High School	7.8	4.1	7.8	6.2
High School Graduate	22.9	11.6	22.9	15.6
Post-Secondary Other Than College	4.1	3.7	4.1	3.9
Some College	14.2	16.3	13.5	15.1
College Degree	24.6	27.6	24.9	24.4
Some Graduate School	3.3	4.0	3.5	5.1
Graduate Degree	19.4	30.5	19.0	24.3

Source: ACE Cooperative Institutional Research Program

Table 22

FATHER'S EDUCATION

Sierra Project Freshmen
Class of 1979

	Sierra n=45	Lago n=40	Control n=23
less than 12 years	15.6%	17.5%	4.3%
12 years	15.6	15.0	30.5
13 to 16 years	40.0	32.5	34.8
17 to 18 years	10.6	17.5	8.7
19 to 20 years	12.7	17.5	21.7
more than 20 years	4.3	0	0

Source: Sierra Project Background Questionnaire

Table 23

FATHER'S EDUCATION

Sierra Project Freshmen
Class of 1980

	Sierra	Lago	Control
	n=43	n=40	n=34
less than 12 years	14.0%	12.5%	11.8%
12 years	23.3	17.5	14.7
13 to 16 years	39.7	27.5	38.2
17 to 18 years	4.7	22.5	11.7
19 to 20 years	18.7	20.0	20.6
more than 20 years	0	0	2.9

Source: Sierra Project Background Questionnaire

Table 24

MOTHER'S OCCUPATION

National and UC Irvine Norms
Classes of 1979 and 1980

	national norms Class of 1979 n=71,897	UCI freshman 1979 n=760	national norms 1980 n=85,006	UCI freshman 1980 n=750
Artist (or performer)	0.9%	1.3%	1.6%	1.2%
Business woman	7.8	10.0	6.5	6.7
Business (clerical)	*	*	9.7	10.8
Clergy or relig. worker	0.1	0.0	0.1	0.1
Educator (college teacher)	0.7	1.2	0.5	0.8
Doctor (MD or DDS)	0.3	0.8	0.3	0.1
Educator (secondary)	2.5	3.9	3.5	3.2
Educator (elementary)	4.7	4.6	6.7	6.7
Engineer	0.0	0.3	0.1	0.0
Farmer or Forester	0.2	0.0	0.2	0.3
Health profession (non MD)	1.4	2.6	1.7	2.5
Homemaker full-time	*	*	36.6	33.2
Lawyer	0.2	0.1	0.1	0.0
Military career	0.0	0.1	0.0	0.0
Nurse	*	*	6.4	6.3
Research scientist	0.1	0.3	0.1	0.4
Skilled worker	0.5	1.1	1.4	2.0
Semi-skilled worker	2.1	1.3	2.5	2.8
Laborer (unskilled)			1.5	0.9
Unemployed	8.2	10.1	7.4	8.0
Other	70.3	62.2	13.3	14.0

* Category was not included in the questionnaire for that year.

Source: ACE Cooperative Institutional Research Program

TABLE 25

MOTHER'S OCCUPATION
Of Sierra Project Freshmen
Classes of 1979 and 1980

	Class of 1979			Class of 1980		
	Sierra	Lago	Control	Sierra	Lago	Control
	N=45	N=39	N=23	N=44	N=40	N=35
Executive	0%	2.6%	0%	2.3%	2.5%	0%
Manager	8.9	28.2	26.1	13.6	7.5	8.6
Administrator	4.4	7.7	8.7	9.1	0	5.7
Clerical	20.0	15.4	30.4	18.2	15.0	22.9
Skilled Worker	0	2.6	0	2.3	5.0	0
Semi-Skilled Worker	2.2	2.6	4.3	2.3	5.0	2.9
Unskilled Worker	4.4	2.6	0	0	0	0
Unemployed	4.4	0	0	4.5	2.5	0
Housewife	55.6	38.5	30.4	47.7	60.0	57.1
Deceased	0	0	0	0	0	2.9
Retired	0	0	0	0	0	0
Student	0	0	0	0	2.5	0

Source: Sierra Project Background Questionnaire

TABLE 26

MOTHER'S EDUCATION

National and U.C. Irvine Norms

Classes of 1979 and 1980

	National Norms 1975	Class of 1979 UCI Freshmen	National Norms 1976	Class of 1980 UCI Freshmen
	N=71,897	N=800	N=85,006	N=771
Grammar School or Less	2.4%	1.0%	2.5%	5.6%
Some High School	6.4	4.4	6.3	5.4
High School Graduate	37.4	26.0	36.3	27.4
Post Secondary Other Than College	7.8	6.3	8.1	7.9
Some College	16.7	26.2	16.6	21.0
College Degree	19.8	22.0	20.8	22.7
Some Graduate School	2.9	4.6	2.9	3.5
Graduate Degree	6.5	9.5	6.5	6.5

Source: ACE Cooperative Institutional Research Program

Table 27

MOTHER'S EDUCATION

Sierra Project Freshmen
Class of 1979

	Sierra	Lago	Control
	n=46	n=40	n=23
less than 12 years	17.4%	12.5%	0
12 years	34.8	25.0	30.4
13 to 16 years	41.3	42.5	43.4
17 to 18 years	6.5	10.0	8.6
19 to 20 years	0	10.0	17.4
more than 20 years	0	0	0

Source: Sierra Project Background Questionnaire

Table 28

MOTHER'S EDUCATION

Sierra Project Freshmen
Class of 1980

	Sierra n=44	Lago n=39	Control n=35
less than 12 years	11.4%	17.9%	11.5%
12 years	25.0	15.4	28.6
13 to 16 years	45.5	53.8	57.2
17 to 18 years	13.6	7.7	2.9
19 to 20 years	4.5	2.6	0
more than 20 years	0	2.6	0

Source: Sierra Project Background Questionnaire